

Random Activation of Gene Expression (RAGE)

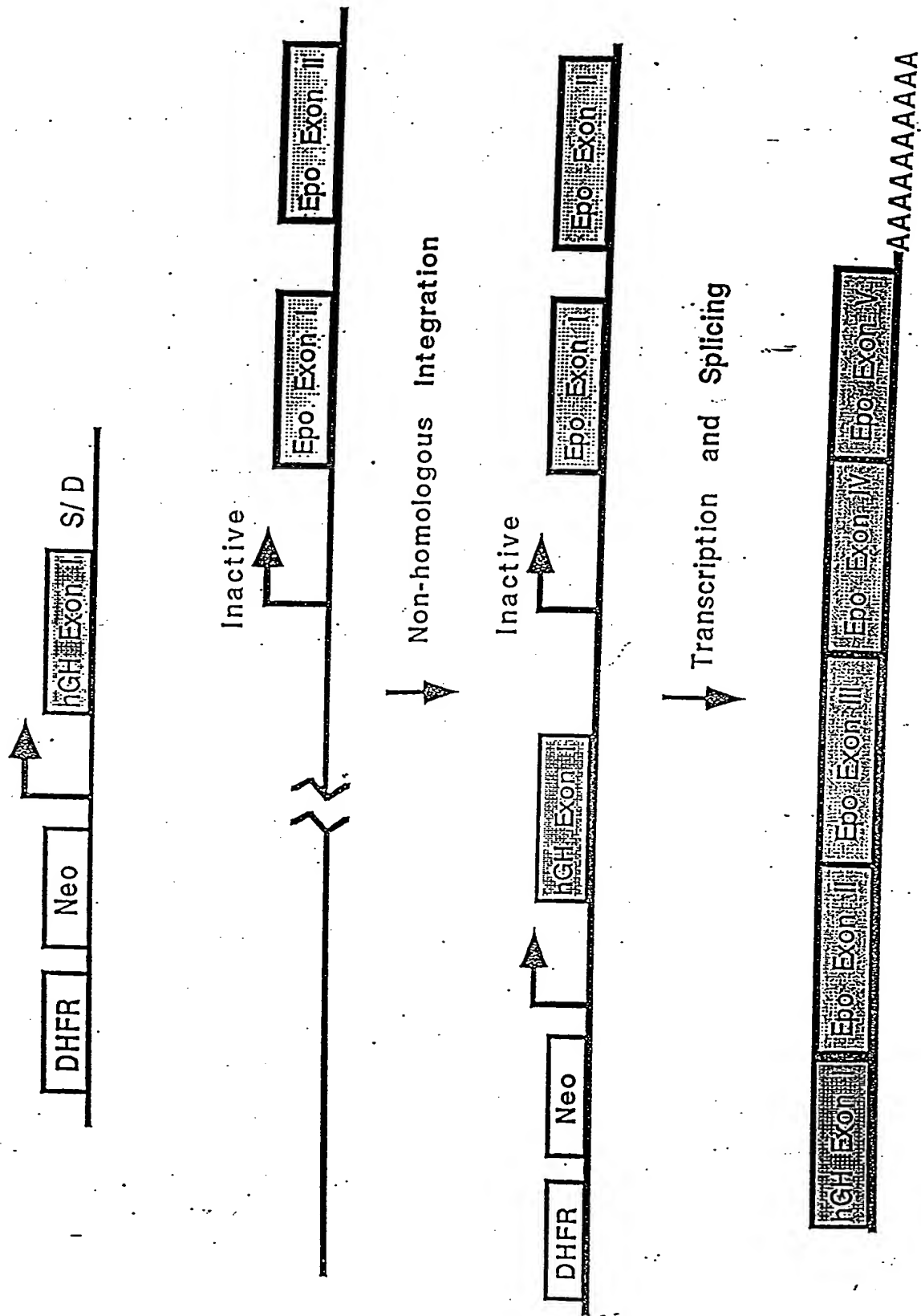


Figure 1

Activation Constructs without Translation Start Codons

Construct #



1



2



Untranslated

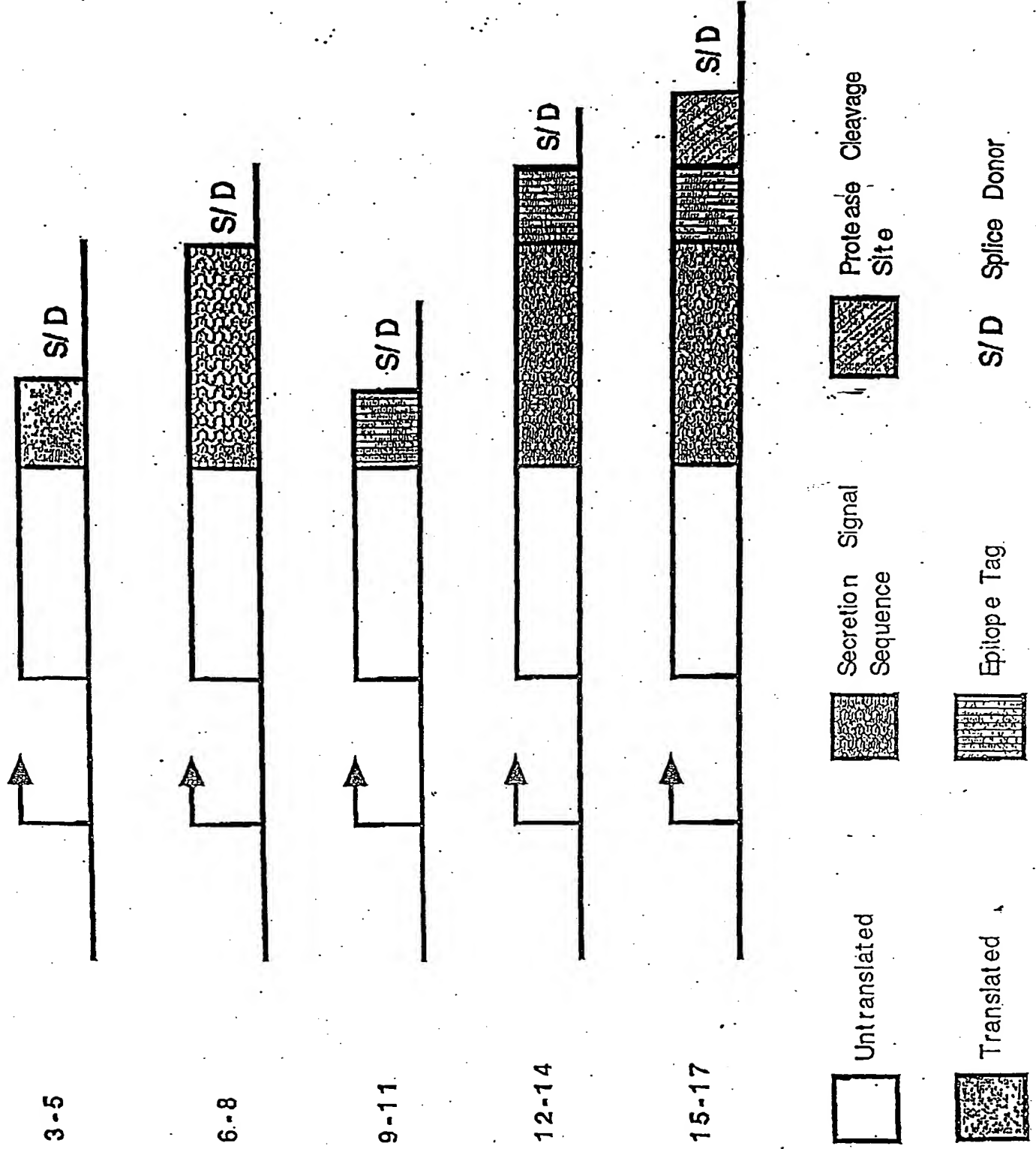
S/D Splice Donor

Fig. 2

Construct #

6692ED 0289260

Fig. 3



pRIG-1

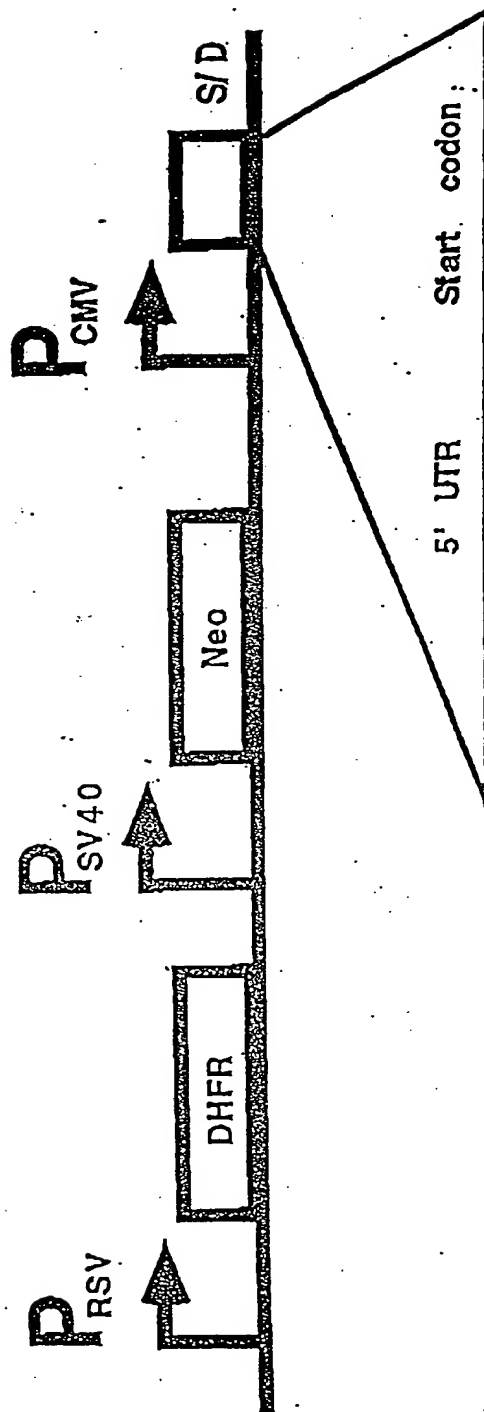


FIG. 4

5'AGATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAATC
 AATATTGGCTATTGGCCATTGCATA
 CGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCAATATGACCG
 CCATGTTGGCATTGATTATTGACT
 AGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGT
 TCCGCGTTACATAACTTACGGTAAA
 TGGCCCGCCTGGCTGACCGCCCAACGACCCCCGCCCATTTGACGTCAATAATGACG
 TATGTTCCCATAGTAACGCCAATAG
 GGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGGC
 AGTACATCAAGTGTATCATATGCCA
 AGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCC
 AGTACATGACCTTACGGGACTTTCC
 TACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTTTT
 GGCAGTACACCAATGGGCGTGGAT
 AGCGGTTTGACTCACGGGGATTTCGAAGTCTCCACCCCATTTGACGTCAATGGGAG
 TTTGTTTTGGCACCAAAATCAACGG
 GACTTTCCAAAATGTCTGAACAACTGCGATCGCCCGCCCCGTTGACGCAAATGGG
 CGGTAGGCGTGTACGGTGGGAGGTC
 TATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTAGAAGCTTTATTGCGG
 TAGTTTATCACAGTTAAATTGCTAA
 CGCAGTCAGTGCTTCTGACACAACAGTCTCGAACTTAAGCTGCAGTGACTCTCTT
 AATTAAGTCCACCAGTCTCACTTCA
 GTTCCTTTTGCCTCCACCAGTCTCACTTCAGTTCCTTTTGCATGAAGAGCTCAGAA
 TCAAAAGAGGAAACCAACCCCTAA
 GATGAGCTTTCCATGTAAATTTGTAGCCAGCTTCCTTCTGATTTTCAATGTTTCTT
 CCAAAGGTGCAGTCTCCAAAGAGA
 TTACGAATGCCTTGGAACCTGGGGTGCCTTGGGTGAGGACATCAACTTGGACAT
 TCCTAGTTTTCAAATGAGTGATGAT
 ATTGACGATATAAAATGGGAAAAAACTTCAGACAAGAAAAAGATTGCACAATTCA
 GAAAAGAGAAAGAGACTTTCAAGGA
 AAAAGATACATATAAGCTATTTAAAAATGGAAGTCTGAAAATTAAGCATCTGAAG
 ACCGATGATCAGGATATCTACAAGG
 TATCAATATATGATACAAAAGGAAAAAATGTGTTGGAAAAAATATTTGATTTGAA
 GATTCAAGAGAGGGTCTCAAAACCA
 AAGATCTCCTGGACTTGTATCAACACAACCCTGACCTGTGAGGTAATGAATGGAA
 CTGACCCCGAATTAAACCTGTATCA
 AGATGGGAAACATCTAAAACCTTCTCAGAGGGTCATCACACACAAGTGGACCACC
 AGCCTGAGTGCAAAATTCAAGTGCA
 CAGCAGGGAACAAAGTCAGCAAGGAATCCAGTGTCGAGCCTGTCAGCTGTCCAG
 AGAAAGGGATCCAGGTGAGTAGGGCC
 CGATCCTTCTAGAGTCGAGCTCTCTTAAGGTAGCAAGGTTACAAGACAGGTTTAA
 GGAGACCAATAGAACTGGGCTTGT
 CGAGACAGAGAAGACTCTTGCGTTTCTGATAGGCACCTATTGGTCTTACGCGGCC
 GCGAATTCCAAGCTTGAGTATTCTA
 TCGTGTACCTAAATAACTTGGCGTAATCATGGTCATATCTGTTTCTGTGTGAA
 ATTGTTATCCGCTCACAATTCCACA
 CAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGTGAG
 CTAAGTCACTAATTGCGTTGCGCGATGCTTCCATTTTGTGAGGGTTAATGC-

Figure 5A

TTCGAGAAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACAAGAAT
 GCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAA
 CCATTATAAGCTGCAATAAACA
 AGTTAACAACAACAATTGCATTCTTTTATGTTTCAGGTTTCAGGGGGAGATGTGG
 GAGGTTTTTTTAAAGCAAGTAAAACC
 TCTACAAATGTGGTAAAATCCGATAAGGATCGATTCCGGAGCCTGAATGGCGAAT
 GGACGCGCCCTGTAGCGGCGCATTA
 AGCGCGGCGGGTGTGGTGGTTACGCGCACGTGACCGCTACACTTGCCAGCGCCC
 TAGCGCCCGCTCCTTTTCGCTTTCTTC
 CCTTCCTTTCTCGCCACGTTTCGCGGGCTTTCCCCGTCAAGCTCTAAATCGGGGGC
 TCCCTTTAGGGTTCCGATTTAGTGC
 TTTACGGCACCTCGACCCCAAAAACTTGATTAGGGTGATGGTTTACGTAGTGGG
 CCATCGCCCTGATAGACGGTTTTTC
 GCCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAAACTGG
 AACAACACTCAACCCTATCTCGGTC
 TATTCTTTTGATTTATAAGGGATTTTGCCGATTTTCGGCCTATTGGTTAAAAAATGA
 GCTGATTTAACAAAAATTTAACGC
 GAATTTTAACAAAATATTAACGCTTACAATTTTCGCCTGTGTACCTTCTGAGGCGG
 AAAGAACCAGCTGTGGAATGTGTGT
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 ATGCATCTCAATTAGTCAGCAACCAG
 GTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCT
 CAATTAGTCAGCAACCATAGTCCCGC
 CCCTAACTCCGCCCCTCCCGCCCCTAACTCCGCCCAGTTCCGCCCATTCTCCGCC
 CCATGGCTGACTAATTTTTTTTATT
 TATGCAGAGGCCGAGGCCGCTCGGCCCTCTGAGCTATTCCAGAAGTAGTGAGGA
 GGCTTTTTTGGAGGCCTAGGCTTTTG
 CAAAAAGCTTGATTCTTCTGACACAACAGTCTCGAACTTAAGGCTAGAGCCACCA
 TGATTGAACAAGATGGATTGCACGC
 AGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCCGGCTATGACTGGGCACAACAG
 ACAATCGGCTGCTCTGATGCCGCCG
 TGTTCCGGCTGTCAGCGCAGGGGCGCCCGGTTCTTTTGTCAAGACCGACCTGTC
 CGGTGCCCTGAATGAACTGCAGGAC
 GAGGCAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCCTTGCGCAGCTGTG
 CTCGACGTTGTCACTGAAGCGGGAAG
 GGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCATCTCACCTT
 GCTCCTGCCGAGAAAGTATCCATCA
 TGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCTGA
 CCACCAAGCGAAACATCGCATCGAG
 CGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGACGAA
 GAGCATCAGGGGCTCGCGCCAGCCGA
 ACTGTTCCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTTCGTGAC
 CCATGGCGATGCCTGCTTGCCGAATA
 TCATGGTGGAATGGCCGCTTTTCTGGATTTCATCGACTGTGGCCGGCTGGGTGT
 GGCGGACCGCTATCAGGACATAGCG
 TTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCTTCC
 TCGTGCTTTACGGTATCGCCGCTCC
 CGATTTCGACGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGCGGGA
 CTCTGGGGTTTCGAAATGACCGACCAAGCGACGCCCAACCTGCCATCACGATGGC-

Figure 5B

CGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAAGA
 TCCGCGTA-
 TGGTGCACCTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGAC
 ACCCGCCAACAC
 CCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGC
 TGTGACCGTCTCCGGGAGCTGCATG
 TGTGAGAGGTTTTTACCCTCATCACCGAAACGCGCGAGACGAAAGGGCCTCGTGA
 TACGCCTATTTTTATAGGTTAATGT
 CATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGC
 GGAACCCCTATTTGTTTATTTTTCT
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 ATAATATTGAAAAAGGAAGAGTATG
 AGTATTCAACATTTCCGTGTCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCTTCC
 TGTTTTTGCTCACCCAGAAACGCT
 GGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTACATCGA
 ACTGGATCTCAACAGCGGTAAGATCC
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 GCTATGTGGCGCGGTATTATCCCGT
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 TGGTTGAGTACTCACCAGTCACAGA
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 ATGAGTGATAACACTGCGGCCAACT
 TACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAACAT
 GGGGGATCATGTAACCTCGCCTTGAT
 CGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCACG
 ATGCCTGTAGCAATGGCAACAACGTT
 GCGCAAACCTATTAACCTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAATA
 GACTGGATGGAGGCGGATAAAGTTG
 CAGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAATC
 TGGAGCCGGTGAGCGTGGGTCTCGC
 GGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCT
 ACACGACGGGGAGTCAGGCAACTAT
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 TAACTGTCAGACCAAGTTTACTCAT
 ATATACTTTAGATTGATTTAAACTTCATTTTTAATTTAAAGGATCTAGGTGAAG
 ATCCTTTTTGATAATCTCATGACC
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 TCAAAGGATCTTCTTGAGATCCTTT
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 GTTTGTTTGCCGGATCAAGAGCTAC
 CAACTCTTTTTCCGAAGGTAACTGGCTTCAGCAGAGCGCAGATACCAAATACTGT
 CCTTCTAGTGTAGCCGTAGTTAGGC
 CACCACTTCAAGAACTCTGTAGCACCGCCTACATACCTCGCTCTGCTAATCCTGT
 TACCAGTGGCTGCTGCCAGTGGCGA
 TAAGTCGTGTCTTACCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAG
 CGGTCGGGCTGAACGGGGGGTTCTG
 GCACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGC
 GTGAGCTATGAGAAAGCGCCACGCTT
 CCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGG-

Figure 5C

AGAGCGCACGAGGGAGCTTCCAGGGGAAACGCCTGGTATCTTTATAGTCCTGTC
GGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGG
GGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCTTTTACGGTTCCTGGCCTT
TTGCTGGCCTTTTGCTCACATGGCT
CGAC3'

Figure 5D

00927620 0289260

5'AGATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAATC
AATATTGGCTATTGGCCATTGCAT
ACGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCAATATGACC
GCCATGTTGGCATTGATTATTGAC
TAGTTATTAATAGTAATCAATTACGGGGTTCATTAGTTCATAGCCCATATATGGAG
TTCCGCGTTACATAAECTTACGGTAA
ATGGCCCGCCTGGCTGACCGCCCAACGACCCCCGCCCATTGACGTCAATAATGAC
GTATGTTCCCATAGTAACGCCAATA
GGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGG
CAGTACATCAAGTGTATCATATGCC
AAGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCC
CAGTACATGACCTTACGGGACTTTC
CTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTT
TTGGCAGTACACCAATGGGCGTGGA
TAGCGGTTTGACTCACGGGGATTTCGAAGTCTCCACCCCATTGACGTCAATGGGA
GTTTGTTTTGGCACCAAATCAACG
GGACTTTCCAAAATGTCTGTAACAACCTGCGATCGCCCCGCCCGTTGACGCAAATGG
GCGGTAGGCGTGTACGGTGGGAGGT
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GTAGTTTATCACAGTTAAATTGCTA
ACGCAGTCAGTGCTTCTGACACAACAGTCTCGAACTTAAGCTGCAGTGACTCTCT
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AGTTCCTTTTGCCTCCACCAGTCTCACTTCAGTTCCTTTTGCATGAAGAGCTCAGA
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CCGCGAATTCCAAGCTTGAGTATTC
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AATTGTTATCCGCTCACAATTCCA
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AGCTAACTCACATTAATTGCGTTGCG
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GATGAGTTTGGACAAACCACAACAAGAATGCAGTGAAAAAATGCTTTATTTGT-

Figure 6A

GAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAA
 CAAGTTAACAACAACAATTGCATTCAATTTTATGTTTCAGGTTTCAGGGGGAGATGT
 GGGAGGTTTTTTTAAAGCAAGTAAAA
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 GCGAATTTTAACA AAAATATTAACGCTTACAATTTTCGCCTGTGTACCTTCTGAGGC
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 CCCCATGGCTGACTAATTTTTTTTA
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 CCGGATTTCGACGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGCGG
 GACTCTGGGGTTCGAAATGACCGAC
 CAAGCGACGCCCAAGCTGCCATCACGATGGCCGCAATAAAATATCTTTATTTTCA
 TTACATCTGTGTGTTGGTTTTTTGT
 GTGAAGATCCGCGTATGGTGCACTCTCAGTACAATCTGCTCTGATGCCGCATAGT
 TAAGCCAGCCCCGACACCCGCCAACACCCGCTGACGCGCCCTGACGGGCT-

Figure 6B

TGTTCTGCTCCCGGCATCCGCTTACAGACAAGCTGTGACCGTCTCCGGGAGCTGCA
TGTGTCAGAGGTTTTTACCCTCATCACCGAAACGCGCGAGACGAAAGGGCCTCGT
GATACGCCTATTTTTATAGGTTAAT
GTCATGATAATAATGGTTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGC
GCGGAACCCCTATTTGTTTATTTTT
CTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTT
CAATAATATTGAAAAAGGAAGAGTA
TGAGTATTCAACATTTCCGTGTCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCTT
CCTGTTTTTGCTCACCCAGAAACG
CTGGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTACATC
GAACTGGATCTCAACAGCGGTAAGAT
CCTTGAGAGTTTTTCGCCCCGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTT
CTGCTATGTGGCGCGGTATTATCCC
GTATTGACGCCGGGCAAGAGCAACTCGGTCGCCGCATACACTATTCTCAGAATGA
CTTGGTTGAGTACTCACCAGTCACA
GAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATAA
CCATGAGTGATAACACTGCGGCCAA
CTTACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAAC
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GGAAACGCCTGGTATCTTTATAGTCCTGTGCGGGTTTCGCCACCTCTGACTTGAGC
GTCGATTTTTGTGATGCTCGTCAGG
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CTTTTGCTGGCCTTTTGCTCACATGG
CTCGAC3'

5'AGATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAATC
 AATATTGGCTATTGGCCATTGCAT
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 GCCATGTTGGCATTGATTATTGAC
 TAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAG
 TTCCGCGTTACATAACTTACGGTAA
 ATGGCCCGCCTGGCTGACCGCCCAACGACCCCGCCCATGACGTCAATAATGAC
 GTATGTTCCCATAGTAACGCCAATA
 GGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGG
 CAGTACATCAAGTGTATCATATGCC
 AAGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCC
 CAGTACATGACCTTACGGGACTTTC
 CTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTT
 TTGGCAGTACACCAATGGGCGTGGA
 TAGCGGTTTGACTCACGGGGATTTCGAAGTCTCCACCCCATGACGTCAATGGGA
 GTTTGTTTTGGCACCAAAATCAACG
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 GCGGTAGGCGTGTACGGTGGGAGGT
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 GTAGTTTATCACAGTTAAATTGCTA
 ACGCAGTCAGTGCTTCTGACACAACAGTCTCGAACTTAAGCTGCAGTGACTCTCT
 TAATTAACCTCCACCAGTCTCACTTC
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 GACCGATGATCAGGATATCTACAAG
 GTATCAATATATGATACAAAAGGAAAAAATGTGTTGGAAAAAATATTTGATTTGA
 AGATTCAAGAGAGGGTCTCAAAACC
 AAAGATCTCCTGGACTTGTATCAACACAACCCTGACCTGTGAGGTAATGAATGGA
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 CAGCCTGAGTGCAAAATTCAAGTGC
 ACAGCAGGGAACAAAGTCAGCAAGGAATCCAGTGTCGAGCCTGTCAGCTGTCCA
 GAGAAAGGGATCCACAGGTGAGTAGG
 GCCCGATCCTTCTAGAGTCGAGCTCTCTTAAGGTAGCAAGGTTACAAGACAGGTT
 TAAGGAGACCAATAGAACTGGGCT
 TGTCGAGACAGAGAAGACTCTTGCGTTTCTGATAGGCACCTATTGGTCTTACGCG
 GCCGCGAATTCCAAGCTTGAGTATT
 CTATCGTGTACCTAAATAACTTGGCGTAATCATGGTCATATCTGTTTCTGTGTG
 AAATTGTTATCCGCTCACAATTCC
 ACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGT
 GAGCTAACTCACATTAATTGCGTTGC
 GCGATGCTTCCATTTTGTGAGGGTTAATGCTTCGAGAAGACATGATAAGATACAT
 TGATGAGTTTGGACAAACCACAACA AGAATGCAGTGAAAAAAATGC-

Figure 7A

TTTATTGTGAAATTTGTGATG
CTATTGCTTTATTTGTAAACCATTATAAGCTGCAATAA
ACAAGTTAAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGGAGATG
TGGGAGGTTTTTTAAAGCAAGTAAA
ACCTCTACAAATGTGGTAAATCCGATAAGGATCGATTCCGGAGCCTGAATGGCG
AATGGACGCGCCCTGTAGCGGCGCA
TTAAGCGCGGCGGGTGTGGTGGTTACGCGCACGTGACCGCTACACTTGCCAGCGC
CCTAGCGCCCGCTCCTTTTCGCTTTC
TTCCCTTCCTTTCTCGCCACGTTTCGCCGGCTTTCCCGTCAAGCTCTAAATCGGGG
GCTCCCTTTAGGGTTCCGATTTAG
TGCTTTACGGCACCTCGACCCCAAAAACTTGATTAGGGTGATGGTTTACGTAAGT
GGGCCATCGCCCTGATAGACGGTTT
TTCGCCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAACT
GGAACAACACTCAACCCTATCTCG
GTCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTTCGGCCTATTGGTTAAAAAA
TGAGCTGATTTAAACAAAAATTTAA
CGCGAATTTTAACAAAATATTAACGCTTACAATTTTCGCCTGTGTACCTTCTGAGG
CGGAAAGAACCAGCTGTGGAATGTG
TGTCAGTTAGGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAAGTATGCAA
AGCATGCATCTCAATTAGTCAGCAAC
CAGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAAGTATGCAAAGCATGCA
TCTCAATTAGTCAGCAACCATAGTCC
CGCCCCTAACTCCGCCCCTCCGCCCCCTAACTCCGCCCAGTTCCGCCCATTCTCC
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GAGGCTTTTTTTGGAGGCCCTAGGCTT
TTGCAAAAAGCTTGATTCTTCTGACACAACAGTCTCGAACTTAAGGCTAGAGCCA
CCATGATTGAACAAGATGGATTGCA
CGCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCCGGCTATGACTGGGCACAA
CAGACAATCGGCTGCTCTGATGCCG
CCGTGTTCCGGCTGTGACGCGAGGGGCGCCCGGTTCTTTTTGTCAAGACCGACCT
GTCCGGTGCCCTGAATGAACTGCAG
GACGAGGCAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCTTTGCGCAGCT
GTGCTCGACGTTGTCACTGAAGCGGG
AAGGGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCATCTCAC
CTTGCTCCTGCCGAGAAAGTATCCA
TCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCAT
CGACCACCAAGCGAAACATCGCATC
GAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGAC
GAAGAGCATCAGGGGCTCGCGCCAGC
CGAACTGTTTCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGT
GACCCATGGCGATGCCTGCTTGCCGA
ATATCATGGTGGAAAATGGCCGCTTTTCTGGATTCATCGACTGTGGCCGGCTGGG
TGTGGCGGACCGCTATCAGGACATA
GCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCT
TCCTCGTGCTTTACGGTATCGCCGC
TCCCGATTTCGCAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGCG
GGACTCTGGGGTTTCGAAATGACCGA
CCAAGCGACGCCCAACCTGCCATCACGATGGCCGCAATAAAAATATCTTTATTTTC
ATTACATCTGTGTGTTGGTTTTTTGTGTGAAGATCCGCGTATGGTGCACTCTC-

Figure 7B

AGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGACACCCGCCAA
 CACCCGCTGACGCGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACA
 AGCTGTGACCGTCTCCGGGAGCTGC
 ATGTGTCAGAGGTTTTACCGTTCATCACCGAAACGCGCGAGACGAAAGGGCCTCG
 TGATACGCCTATTTTTATAGGTAA
 TGTCAATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTG
 CGCGGAACCCCTATTTGTTTATTTT
 TCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCT
 TCAATAATATTGAAAAAGGAAGAGT
 ATGAGTATTCAACATTTCCGTGTGCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCT
 TCCTGTTTTTGTCTACCCAGAAAC
 GCTGGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTACAT
 CGAACTGGATCTCAACAGCGGTAAGA
 TCCTTGAGAGTTTTCGCCCCGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGT
 TCTGCTATGTGGCGCGGTATTATCC
 CGTATTGACGCCGGGCAAGAGCAACTCGGTGCGCGCATACACTATTCTCAGAATG
 ACTTGGTTGAGTACTCACCAGTCAC
 AGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATA
 ACCATGAGTGATAACACTGCGGCCA
 ACTTACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGACAA
 CATGGGGGATCATGTAACCTGCTT
 GATCGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACC
 ACGATGCCTGTAGCAATGGCAACAAC
 GTTGCGCAAACTATTAAGTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTA
 ATAGACTGGATGGAGGCGGATAAAG
 TTGCAGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAA
 ATCTGGAGCCGGTGAGCGTGGGTCT
 CGCGGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTA
 TCTACACGACGGGGAGTCAGGCAAC
 TATGGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCAT
 TGGTAACTGTCAGACCAAGTTTACT
 CATATATACTTTAGATTGATTTAAACTTCATTTTTTAATTTAAAAGGATCTAGGTG
 AAGATCCTTTTTGATAATCTCATG
 ACCAAAATCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAA
 AGATCAAAGGATCTTCTTGAGATCC
 TTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAAACCACCGCTACCAGCG
 GTGGTTTGTGTTGCCGGATCAAGAGC
 TACCAACTCTTTTTCCGAAGGTAAGTGGCTTCAGCAGAGCGCAGATACCAAATAC
 TGTCTTCTAGTGTAGCCGTAGTTA
 GGCCACCACTTCAAGAACTCTGTAGCACCGCCTACATACCTCGCTCTGCTAATCC
 TGTACCAGTGGCTGCTGCCAGTGG
 CGATAAGTCGTGTCTTACCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGCG
 CAGCGGTGCGGGCTGAACGGGGGGTT
 CGTGACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTAC
 AGCGTGAGCTATGAGAAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGT
 ATCCGGTAAGCGGCAGGGTTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGG
 GGGAACCGCCTGGTATCTTTATAGTCTGTGCGGTTCGCCACCTCTGACTTGAG
 CGTCGATTTTTGTGATGCTCGTCAG
 GGGGGCGGAGCCTATGAAAAACGCCAGCAACGCGGCCTTTTTACGGTTCCTGG
 CCTTTTGCTGGCCTTTTGCTCACATGGCTCGAC3'

Figure 7C

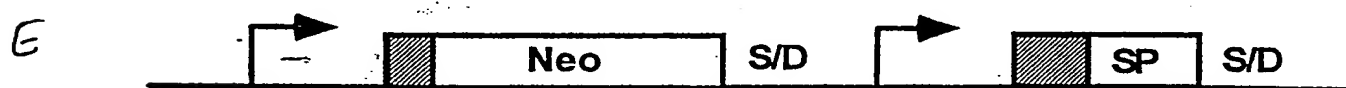
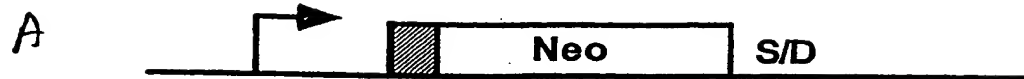


FIGURE 8

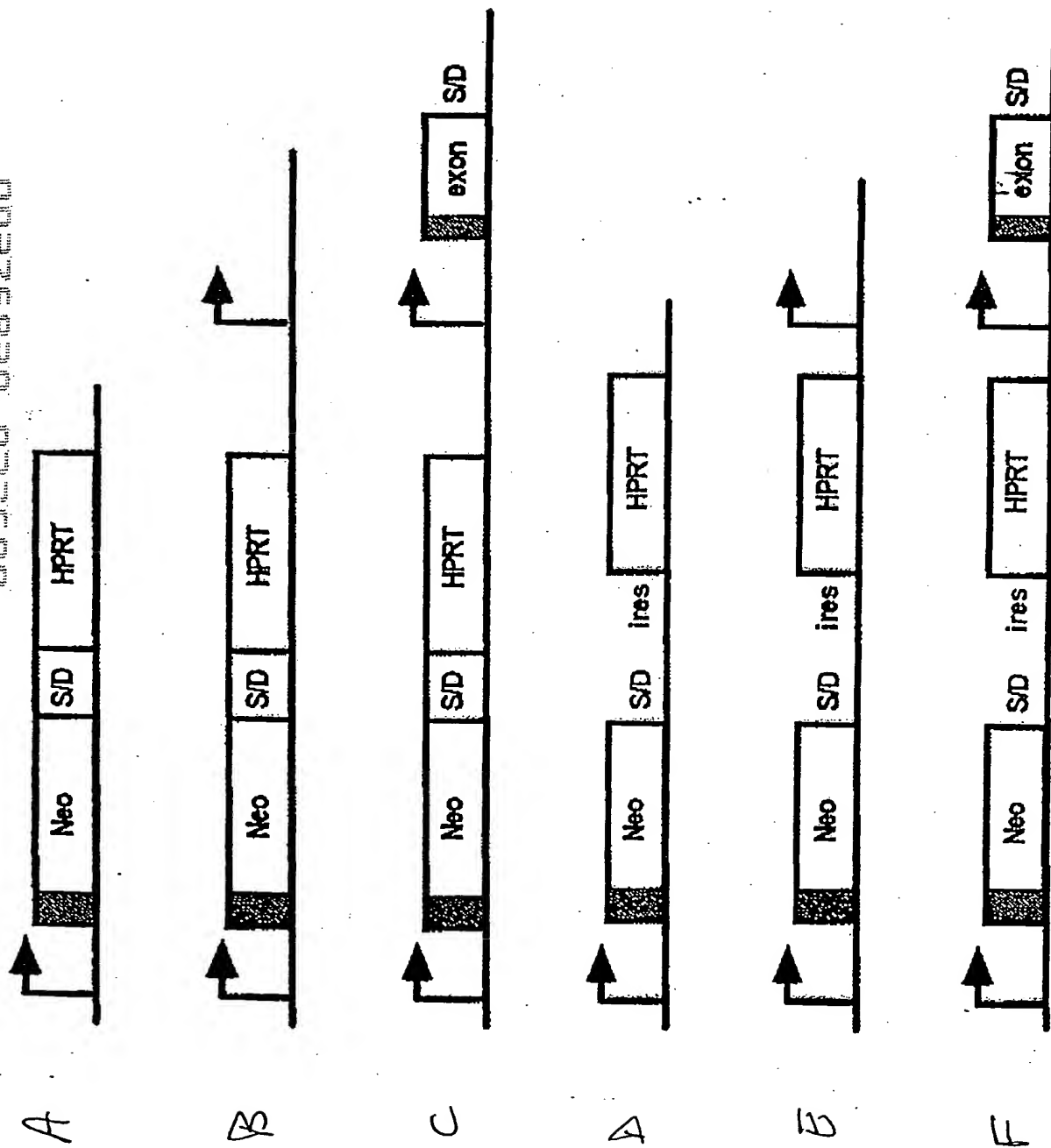


FIGURE 9

009200 0289200

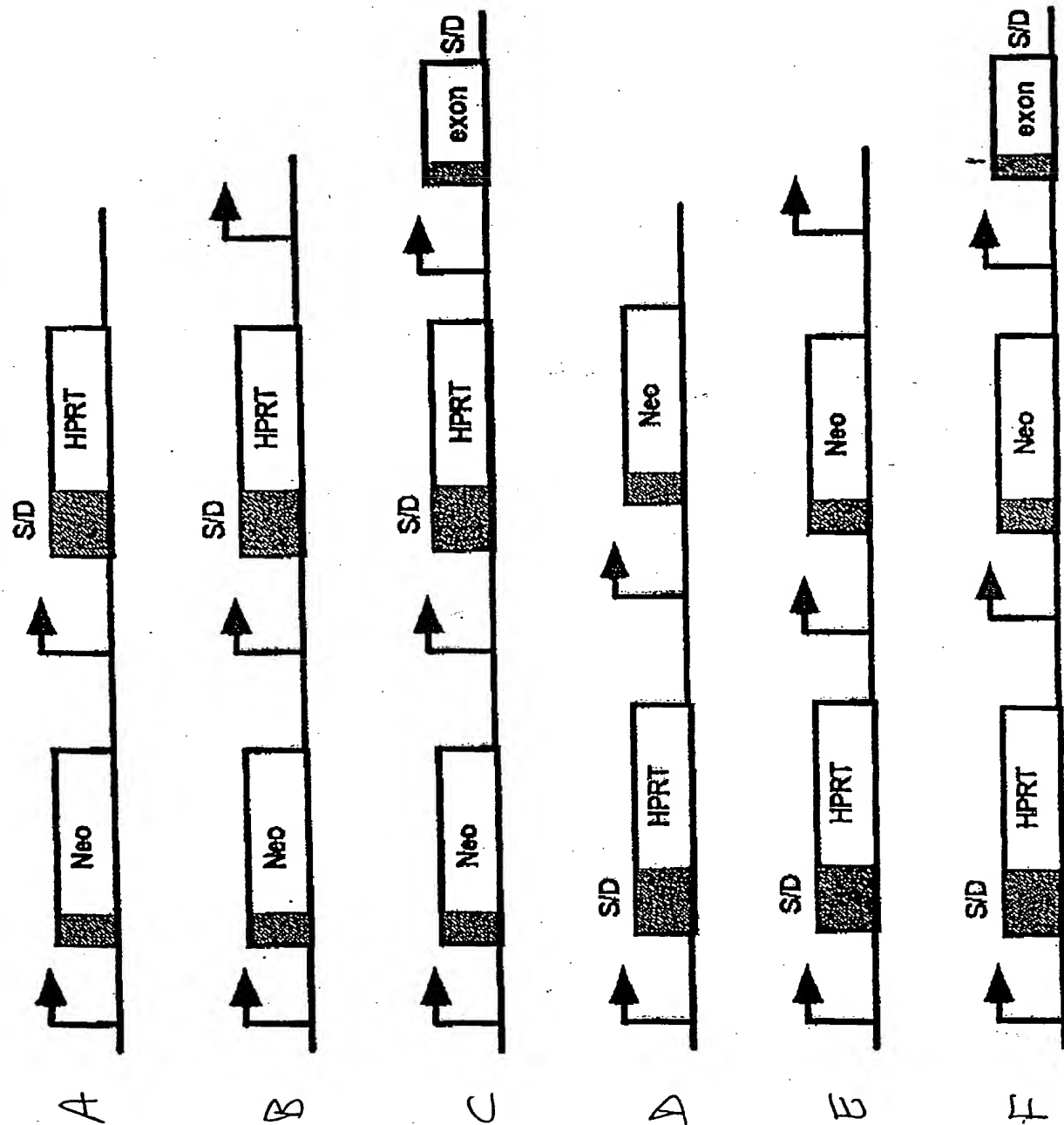


FIGURE 10

A



B



FIGURE 11

00076820-032599

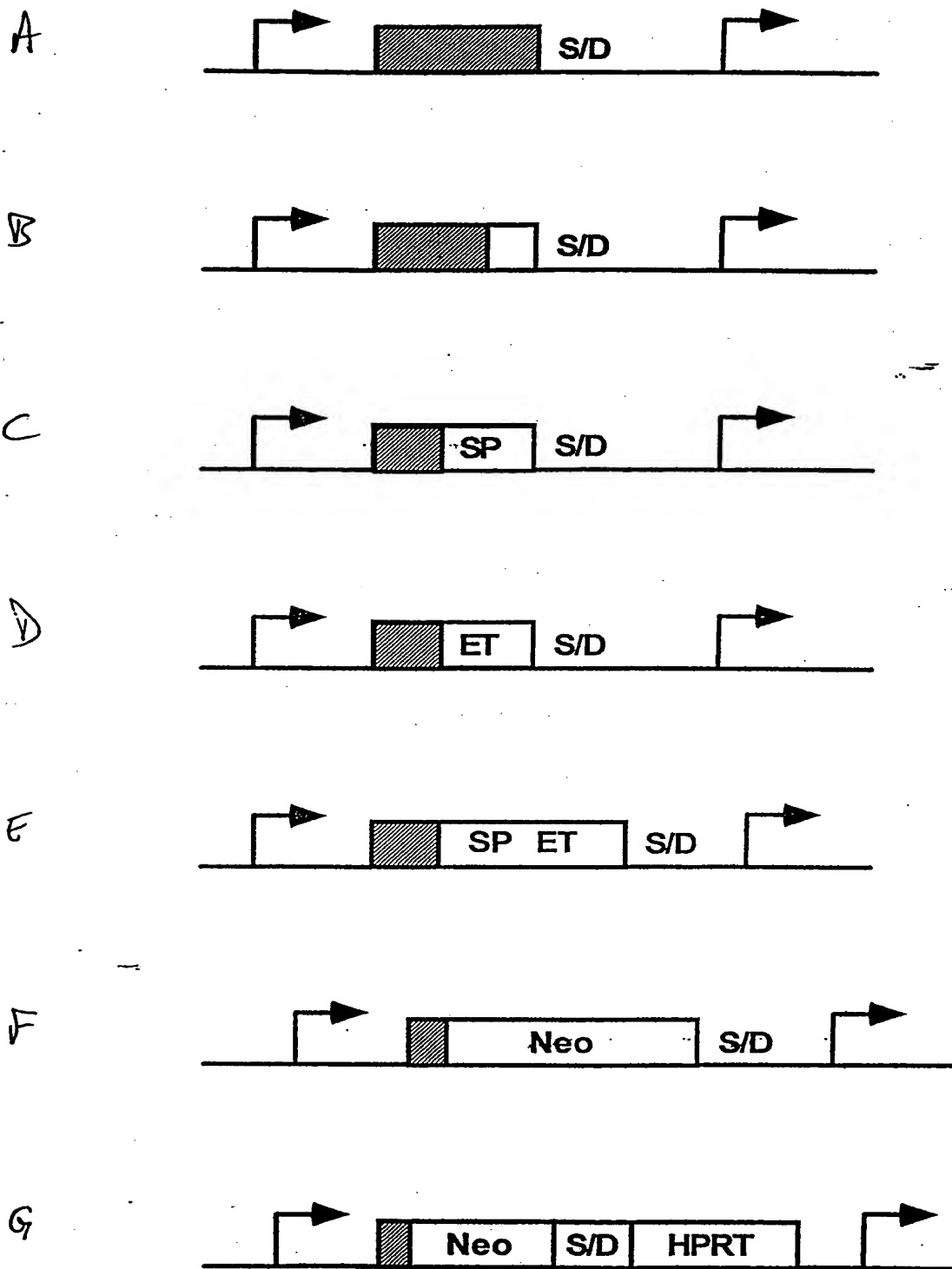


FIGURE 12

bioRxiv preprint doi: <https://doi.org/10.1101/023926>; this version posted March 1, 2016. The copyright holder for this preprint (which was not certified by peer review) is the author/funder, who has granted bioRxiv a license to display the preprint in perpetuity. It is made available under aCC-BY-NC-ND 4.0 International license.

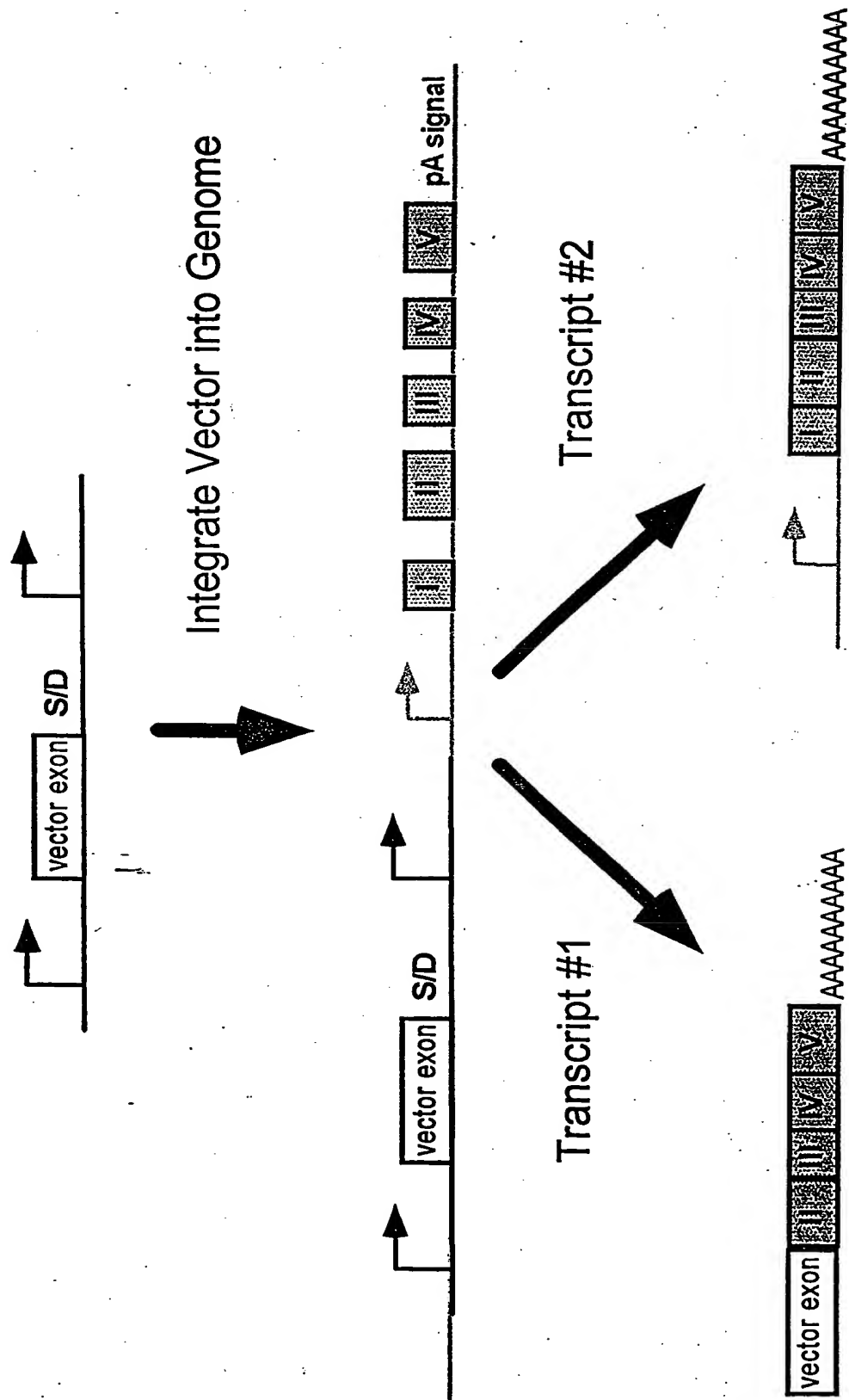


FIGURE 13

66320-0237260

AGATCTTCAATATTGGCCATTAGCCATATTATTCAATTGGTTATATAGCATAAATCAATATTGG
CTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCA
ATATGACCGCCATGTTGGCATTGATTGACTAGTTATTAATAGTAATCAATTACGGGGTCA
TTAGTTCATAGCCCATATATGGAGTTCGCGTTACATAACTTACGGTAAATGGCCCGCTGGC
TGACCGCCCAACGACCCCCGCCATTGACGTCAATAATGACGTATGTTCCCATAGTAACGCCA
ATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGGCAGTA
CATCAAGTGTATCATATGCCAAGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCCGCC
TGGCATTATGCCCAGTACATGACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTA
GTCATCGCTATTACCATGGTGTATGCGGTTTTTGGCAGTACACCAATGGGCGTGGATAGCGGTTT
GACTCACGGGGATTTCCTAAGTCTCCACCCCATTTGACGTCAATGGGAGTTTTGTTTTGGCACCAA
AATCAACGGGACTTTCCAAAATGTCGTAACAACCTGCGATCGCCCGCCCGTTGACGCAAATG
GGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGAT
CACTAGAAGCTTTATTGCGGTAGTTTATCACAGTTAAATTGCTAACGCAGTCAGTGCTTCTGA
CACAAAGTCTCGAACTTAAGCTGCAGTGAATCTCTTA AatccaccatggctacaggtgagtactcgGATCTA
GCGCTATATGCGTTGATGCAATTTCTATGCGCACCCGTTCTCGGAGCACTGTCCGACCGCTTT
GGCCGCGCCCAAGTCTGCTCGCTCGCTACTTGGAGCCACTATCGACTACGCGATCATGGCG
ACCACACCCGTCCTGTGGATCCTCTACGCGGACGCATCGTGGCCGGCATCACCGGCGCCACA
GGTGCAGTTGCTGGCGCCTATATCGCCGACATCACCGATGGGGAAGATCGGGCTCGGCACTTC
GGGCTCATGAGCGCTTGTTCGGCTCTCTTAAGGTAGCAGATCCTTGCTAGAGTCGACCAATT
CTCATGTTTGACAGCTTATCATCGCAGATCCTGAGCTTGTATGGTGCACCTCTCAGTACAATCT
GCTCTGCTGCCGCATAGTTAAGCCAGTATCTGCTCCCTGCTTGTGTGTTGGAGGTGCTGAGT
AGTGCGCGAGCAAAAATTTAAGCTACAACAAGGCAAGGCTTGACCGACAATTGCATGAAGAAT
CTGCTTAGGGTTAGGCGTTTTTGCCTGCTTCGCGATGTACGGGCCAGATATACGCGTATCTGA
GGGACTAGGGTGTGTTTAGGCGCCAGCGGGGCTTCGGTTGTACGCGGTTAGGAGTCCCTC
AGGATATAGTAGTTTCGCTTTTGCATAGGGAGGGGAAATGTAGTCTTATGCAATACACTTGT
AGTCTTGCAACATGGTAACGATGAGTTAGCAACATGCCTTACAAGGAGAGAAAAAGCACCGT
GCATGCCGATTGGTGGAAGTAAGGTGGTACGATCGTGCCTTATTAGGAAGGCAACAGACAGG
TCTGACATGGATTGGACGAACCACTGAATTCGCGATTGCAGAGATAATTGTATTTAAGTGCCT
AGCTCGATACAATAAACGCCATTTGACCATTACCAATTGGTGTGCACCTCCAAGCTGGGTA
CCAGCTGCTAGCCTCGAGACGCGTGATTTCTTGAAGCTTgtcatggttggtcgtaaactgcatgctgctgtgc
ccagaacatgggcatcggaagaacggggacctgcccggcaccgctcaggaaatgaattcagatattccagagaatgaccacaacctctcagtaga
aggtaaacagaatctgggtgattatgggtaagaagacctggttccattcctgagaagaatcgaccttaagggtagaattaattagttctcagcagagaa
ctcaaggaaacctccacaaggagctcattttctccagaagctcagatgatgcttaaaacttactgaacaaccagaattagcaataaagtagacatggtct
ggatagttggtggcagttctgtttataaggaagccatgaatcacccaggccatcttaaaactatttgtgacaaggatcatgcaagacttgaaagtacacgttt
ttccagaaattgatttgagaaataaaacttctgccagaatacccggtgttctctgatgtccaggaggagaaaggcattaaagtagaattgaagtata
tgagaagaatgattaatCGATCTTAAGTTAATCTTTCCCGGGGGTACCGTCACTGCGGCCGCGAATTC
CAAGCTTGAGTATTCTATCGTGTACCTAAATAAATTGGCGTAATCATGGTCATATCTGTTTCC
TGTGTGAAATTGTTATCCGCTCACAAATCCACACAACATACGAGCCGGAAGCATAAAGTGTA
AAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCGATGCTTCCATTT
TGTGAGGGTTAATGCTTCGAGAAGACATGATAAGATACATTGATGAGTTTGGACAAACCACA
ACAAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTA
ACCATTAAGCTGCAATAAACAAAGTTAACAACAACAAATTGCATTCAATTTTATGTTTCAGGTT
CAGGGGGAGATGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTAAATCCG
ATAAGGATCGATTCCGGAGCCTGAATGGCGAATGGACGCGCCCTGTAGCGGCGCATTAAGCG
CGGCGGGTGTGGTTACGCGCACGTGACCGCTACACTTGCCAGCGCCCTAGCGCCCCGCTCC
TTTCGCTTTCTTCCCTTCTCGCCACGTTTCGCCGGCTTTCCCCGTCAAGCTCTAAATCGG
GGGCTCCCTTTAGGGTTCCGATTTAGTCTTTACGGCACCTCGACCCCAAAAACTTGATTAG
GGTGATGGTTACGTAAGTGGGCCATCGCCCTGATAGACGGTTTTTCGCCCTTTGACGTTGGAG
TCCACGTTCTTTAATAGTGGACTCTTGTTCCAAATGGAACAACACTCAACCCTATCTCGGTC
TATTCTTTTGATTATAAGGGATTTTGGCGATTTTCGGCCTATTGGTTAAAAAATGAGCTGATTT
AACAAAAATTTAACGCGAATTTTAACAAAAATTAACGCTTACAATTTTCGCTGTGTACCTTC
TGAGGCGGAAAGAACCAGCTGTGGAATGTGTGTCAGTTAGGGTGTGGAAAGTCCCCAGGCTC
CCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCAGCAACCAGGTGTGGAAAGT
CCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCAGCAACCATA-

FIGURE 14A

CTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCATCTCACCTTGCTCCTGCCGAGAAAGTA
TCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTGAC
CACCAAGCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGATCA
GGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAAGTTCGCCAGGCTCAAGG
CGCGCATGCCCCGACGGCGAGGATCTCGTCGTGACCCATGGCGATGCCTGCTTGCCGAATATCA
TGGTGGAAAATGGCCGCTTTTCTGGATTTCATCGACTGTGGCCGGCTGGGTGTGGCGGACCGCT
ATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGAC
CGCTTCCTCGTGCTTTACGGTATCGCCGCTCCCGATTTCGAGCGCATCGCCTTCTATCGCCTTC
TTGACGAG^{Gcca}TTC^{Tgatggaggtag}CGGCCGCTAACCTGGTTGCTGACTAATTGAGATGCATGCTTT
GCATACTTCTGCCTGCTGGGGAGCCTGGGGACTTTCCACACCCTAACTGACACACATTCCACA
GCTGGTTCTTTCCGCCTCAGAAGGTACACAGGCGAAATTGTAAGCGTTAATATTTTGTAAAA
TTCGCGTTAAATTTTGTAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGCAAAATC
CCTTATAAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTGTTCCAGTTTGGAAACAAGAG
TCCACTATTAAAGAACGTGGACTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATG
GCCCAC

FIGURE 15B

00276820 0289260

00276820.0009260

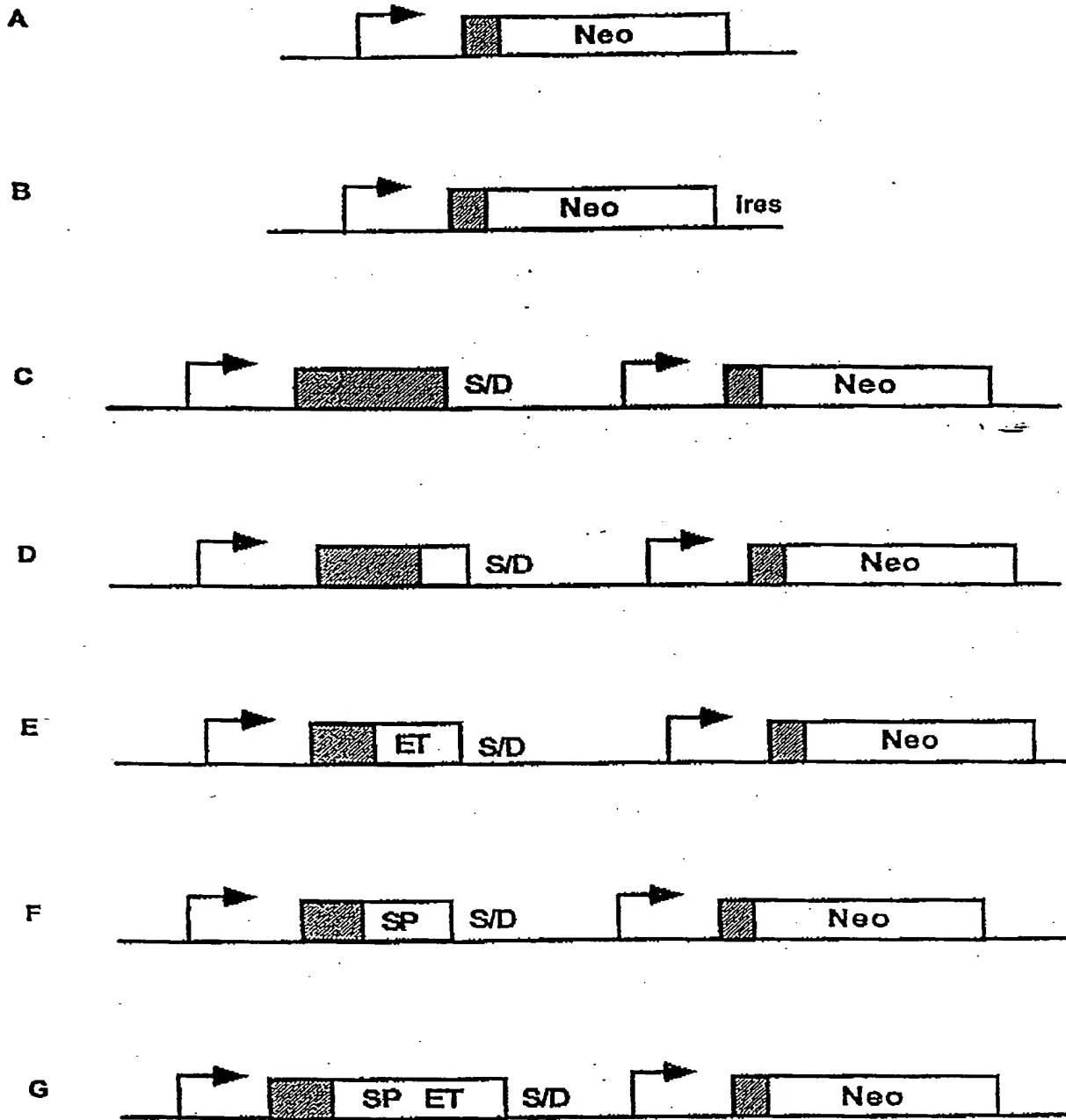


Figure 17

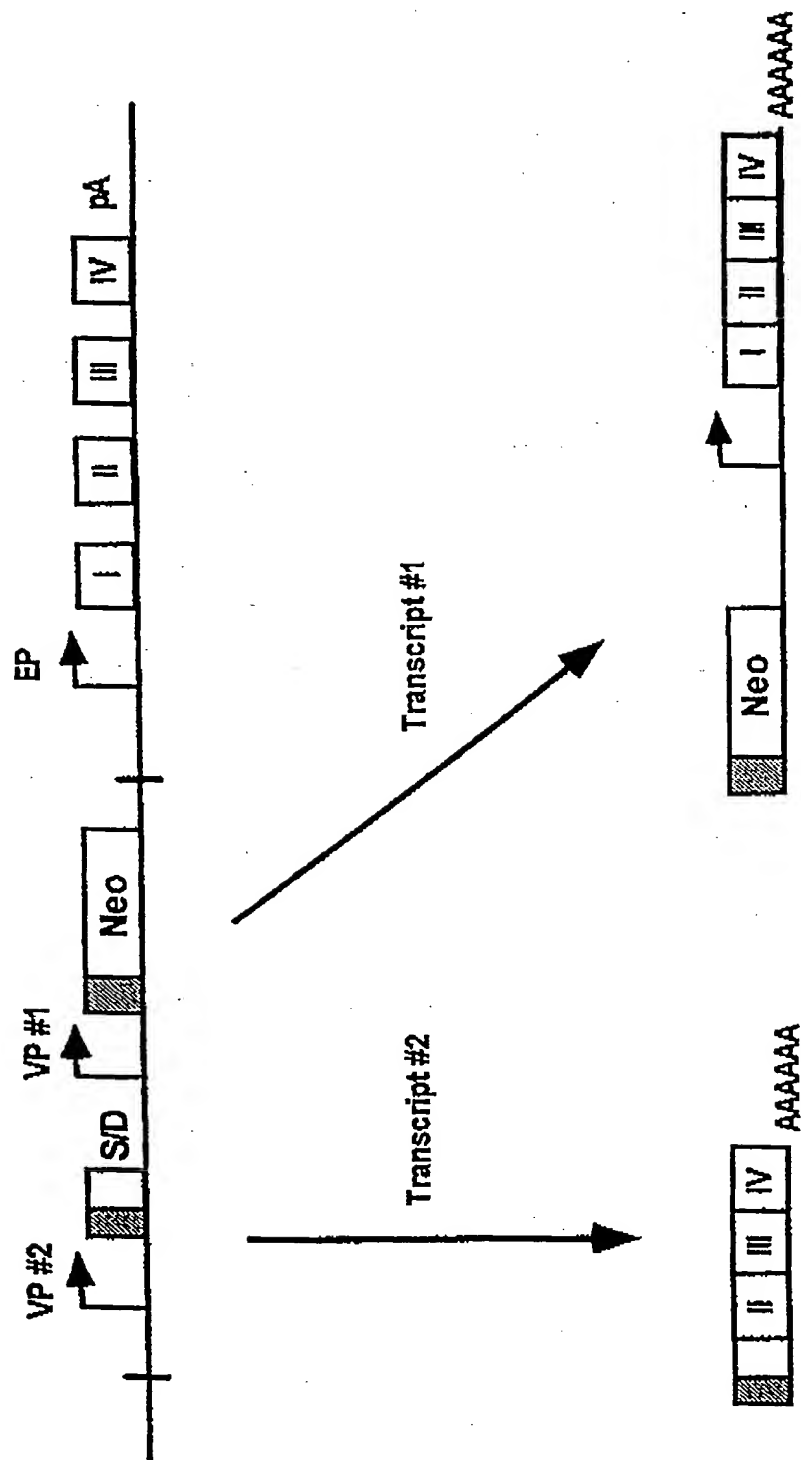


Figure 18



Figure 19

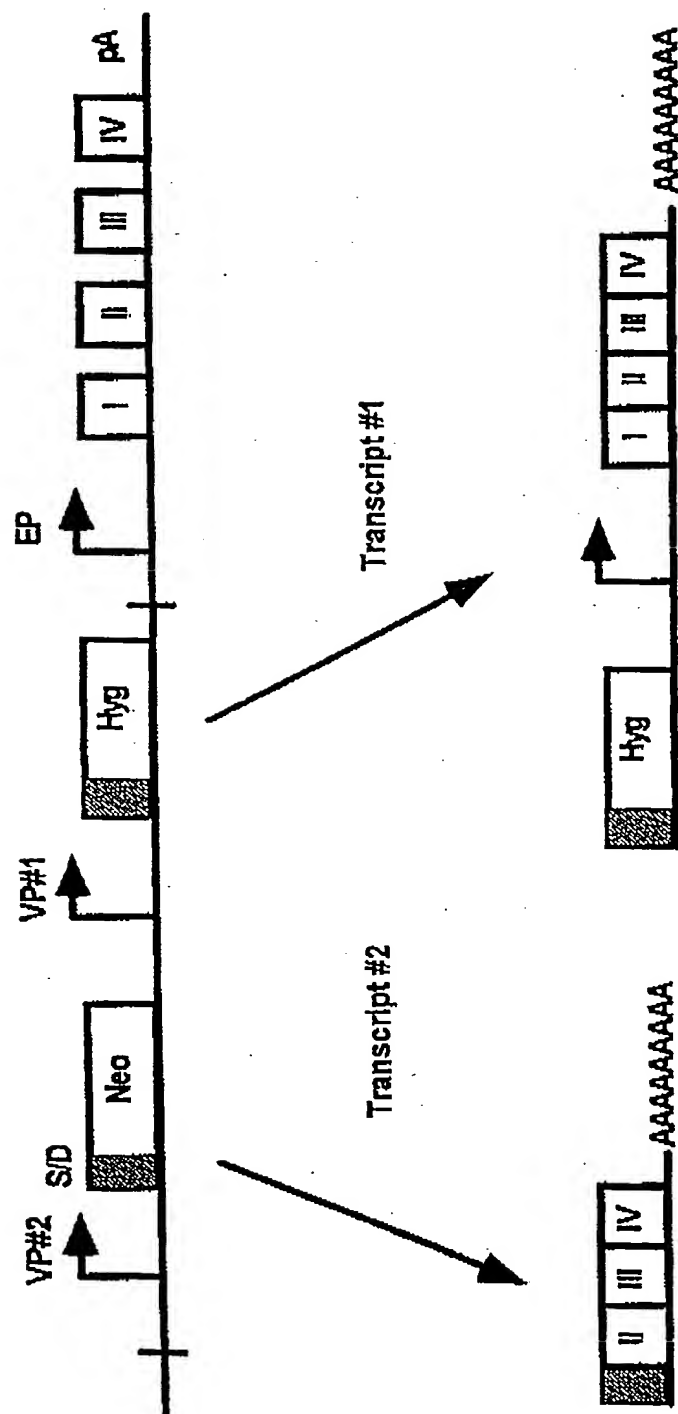


Figure 20A

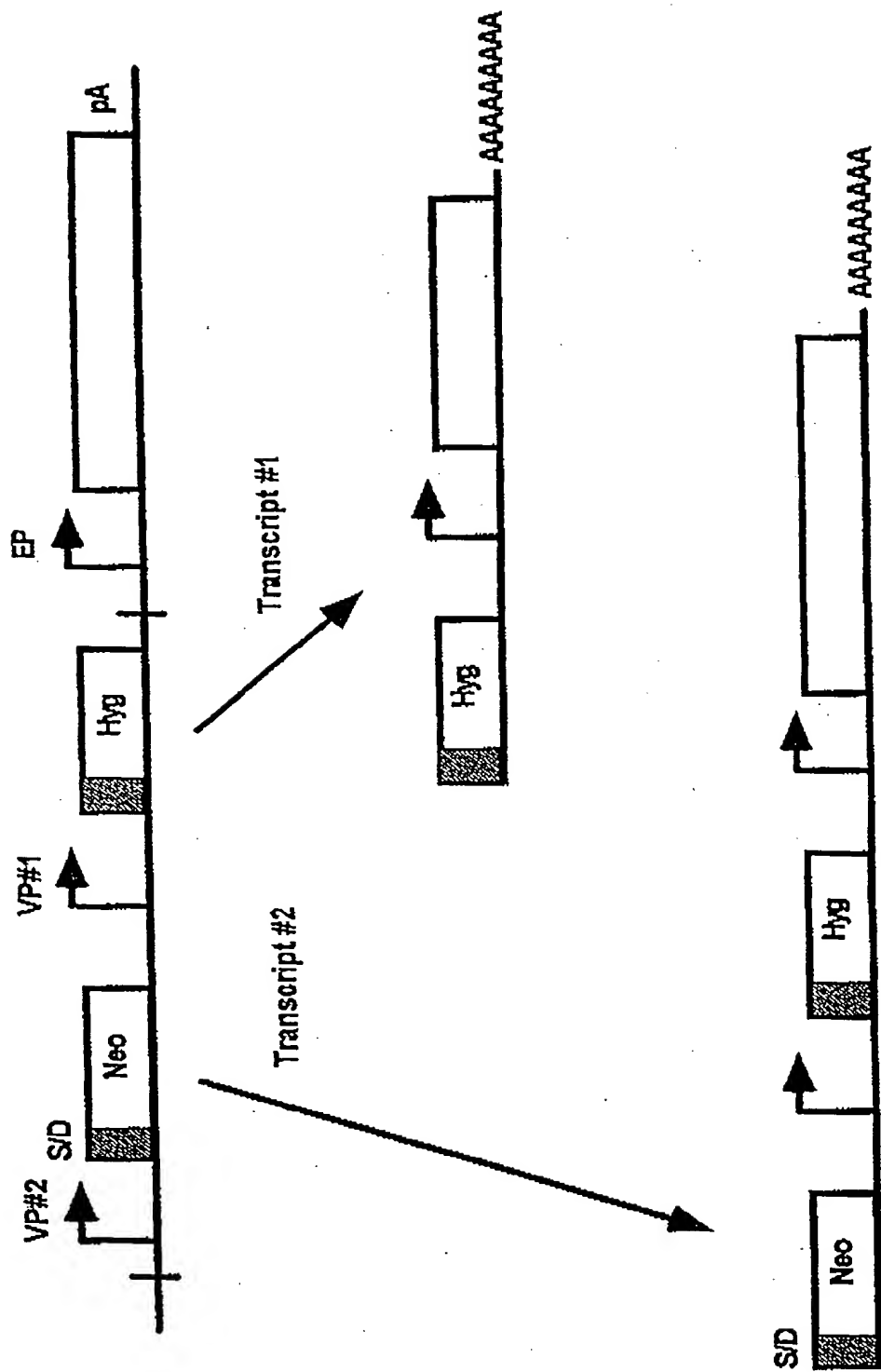


Figure 20B

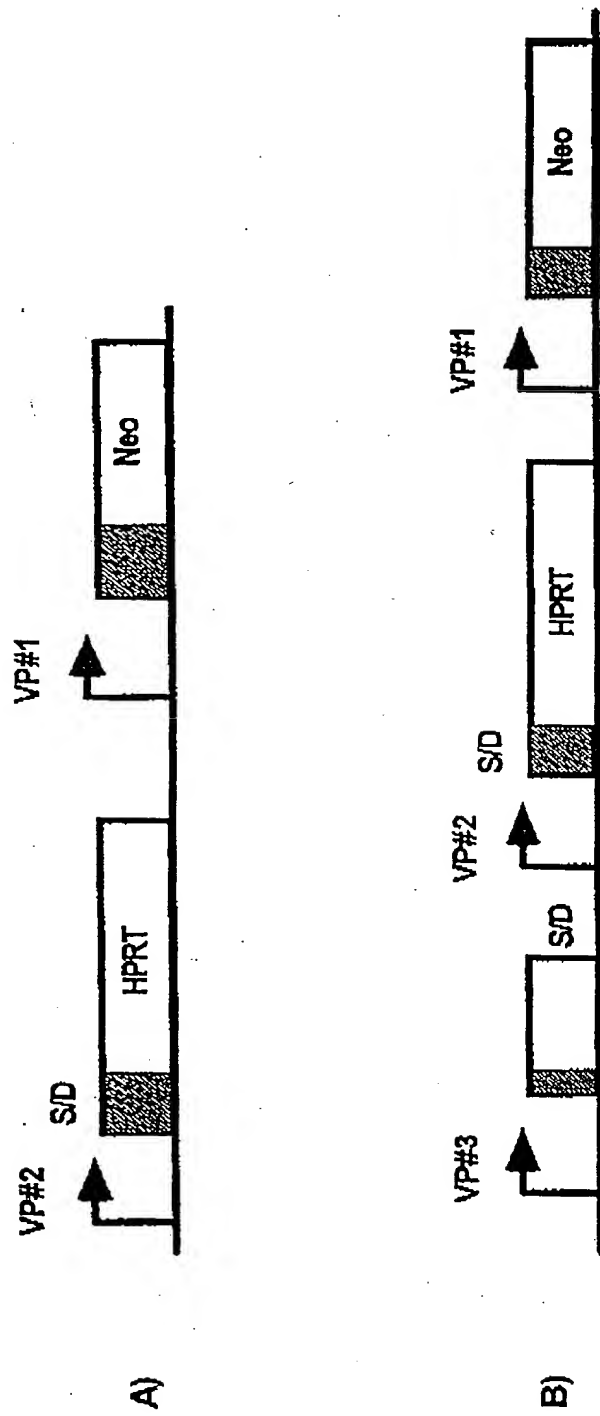


Figure 21

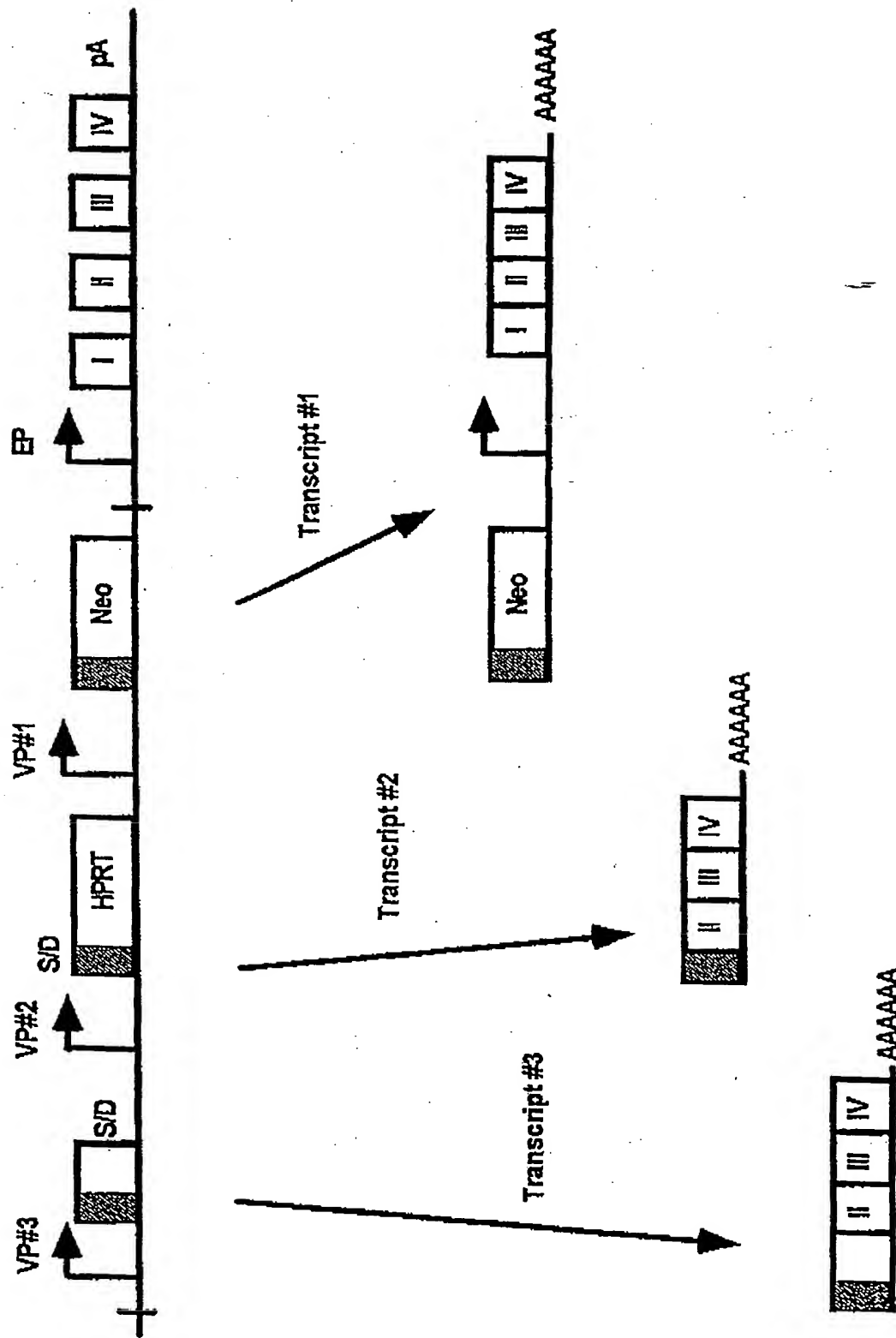


Figure 22

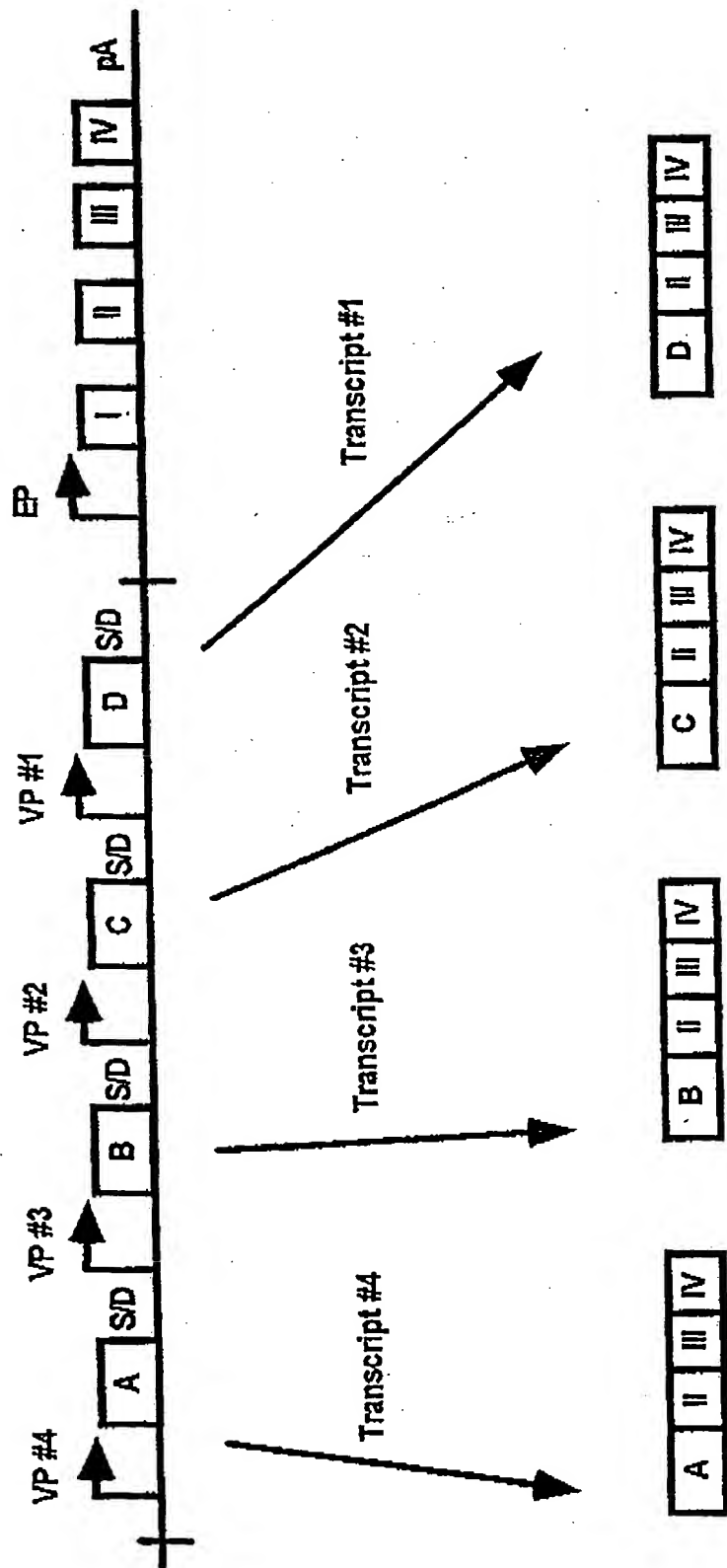


Figure 24

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2
--	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	---

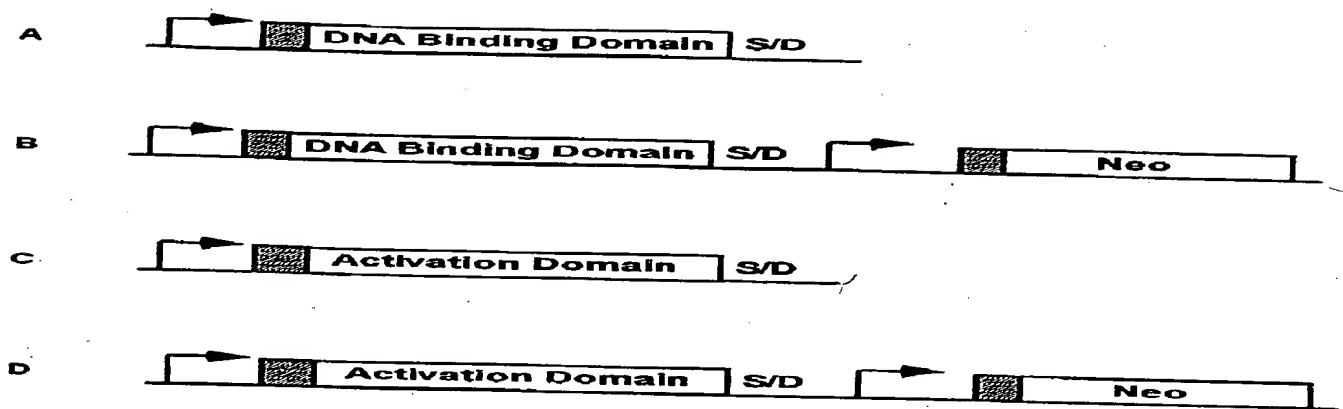


FIGURE 25

659330 0239260

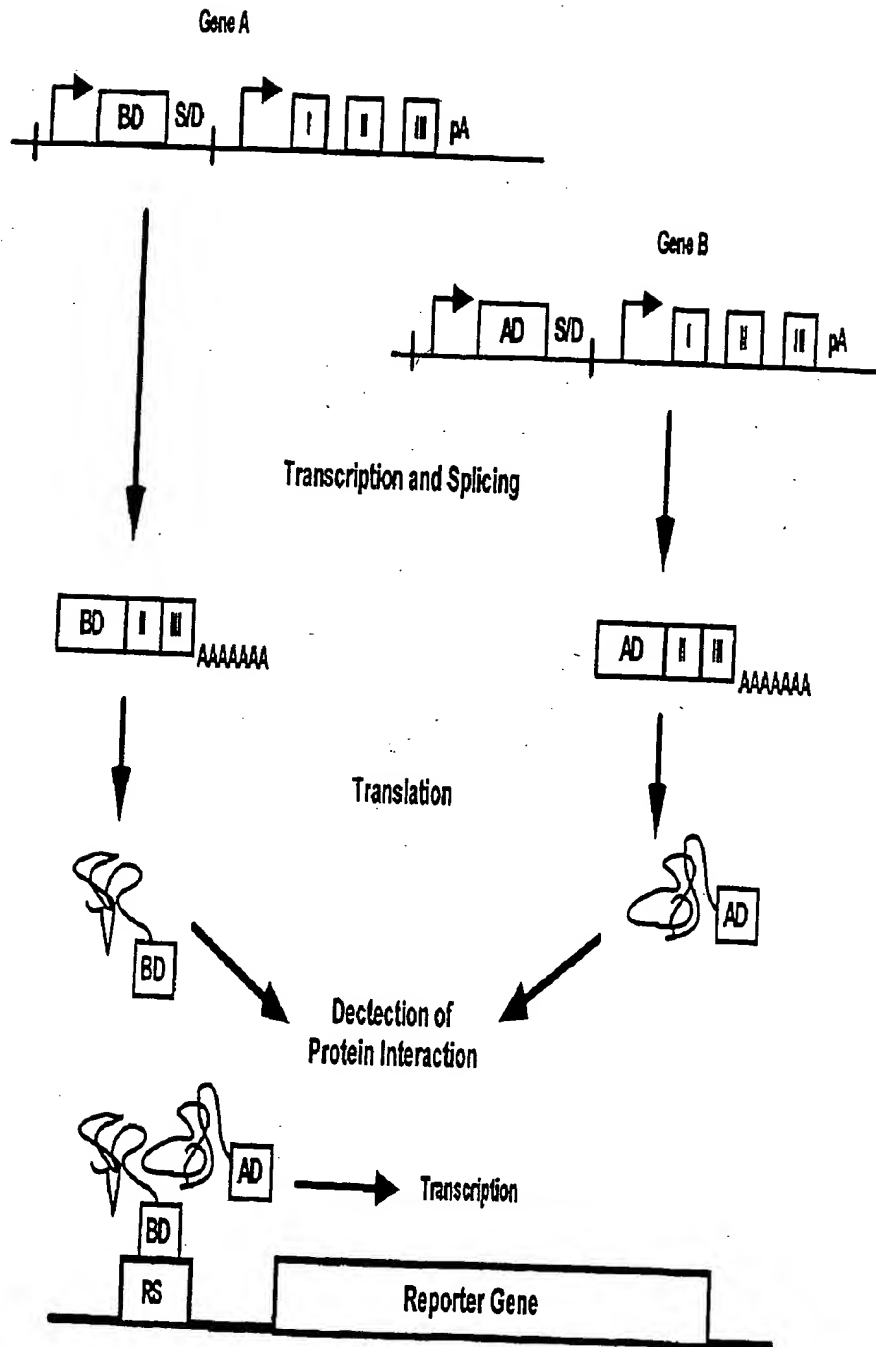


FIGURE 26

Lat.	Long.	Alt.	Ref.
51°	123°	1000	1000
50°	124°	1000	1000
49°	125°	1000	1000
48°	126°	1000	1000
47°	127°	1000	1000
46°	128°	1000	1000
45°	129°	1000	1000
44°	130°	1000	1000
43°	131°	1000	1000
42°	132°	1000	1000
41°	133°	1000	1000
40°	134°	1000	1000
39°	135°	1000	1000
38°	136°	1000	1000
37°	137°	1000	1000
36°	138°	1000	1000
35°	139°	1000	1000
34°	140°	1000	1000
33°	141°	1000	1000
32°	142°	1000	1000
31°	143°	1000	1000
30°	144°	1000	1000
29°	145°	1000	1000
28°	146°	1000	1000
27°	147°	1000	1000
26°	148°	1000	1000
25°	149°	1000	1000
24°	150°	1000	1000
23°	151°	1000	1000
22°	152°	1000	1000
21°	153°	1000	1000
20°	154°	1000	1000
19°	155°	1000	1000
18°	156°	1000	1000
17°	157°	1000	1000
16°	158°	1000	1000
15°	159°	1000	1000
14°	160°	1000	1000
13°	161°	1000	1000
12°	162°	1000	1000
11°	163°	1000	1000
10°	164°	1000	1000
9°	165°	1000	1000
8°	166°	1000	1000
7°	167°	1000	1000
6°	168°	1000	1000
5°	169°	1000	1000
4°	170°	1000	1000
3°	171°	1000	1000
2°	172°	1000	1000
1°	173°	1000	1000
0°	174°	1000	1000
1°	175°	1000	1000
2°	176°	1000	1000
3°	177°	1000	1000
4°	178°	1000	1000
5°	179°	1000	1000
6°	180°	1000	1000
7°	181°	1000	1000
8°	182°	1000	1000
9°	183°	1000	1000
10°	184°	1000	1000
11°	185°	1000	1000
12°	186°	1000	1000
13°	187°	1000	1000
14°	188°	1000	1000
15°	189°	1000	1000
16°	190°	1000	1000
17°	191°	1000	1000
18°	192°	1000	1000
19°	193°	1000	1000
20°	194°	1000	1000
21°	195°	1000	1000
22°	196°	1000	1000
23°	197°	1000	1000
24°	198°	1000	1000
25°	199°	1000	1000
26°	200°	1000	1000
27°	201°	1000	1000
28°	202°	1000	1000
29°	203°	1000	1000
30°	204°	1000	1000
31°	205°	1000	1000
32°	206°	1000	1000
33°	207°	1000	1000
34°	208°	1000	1000
35°	209°	1000	1000
36°	210°	1000	1000
37°	21		

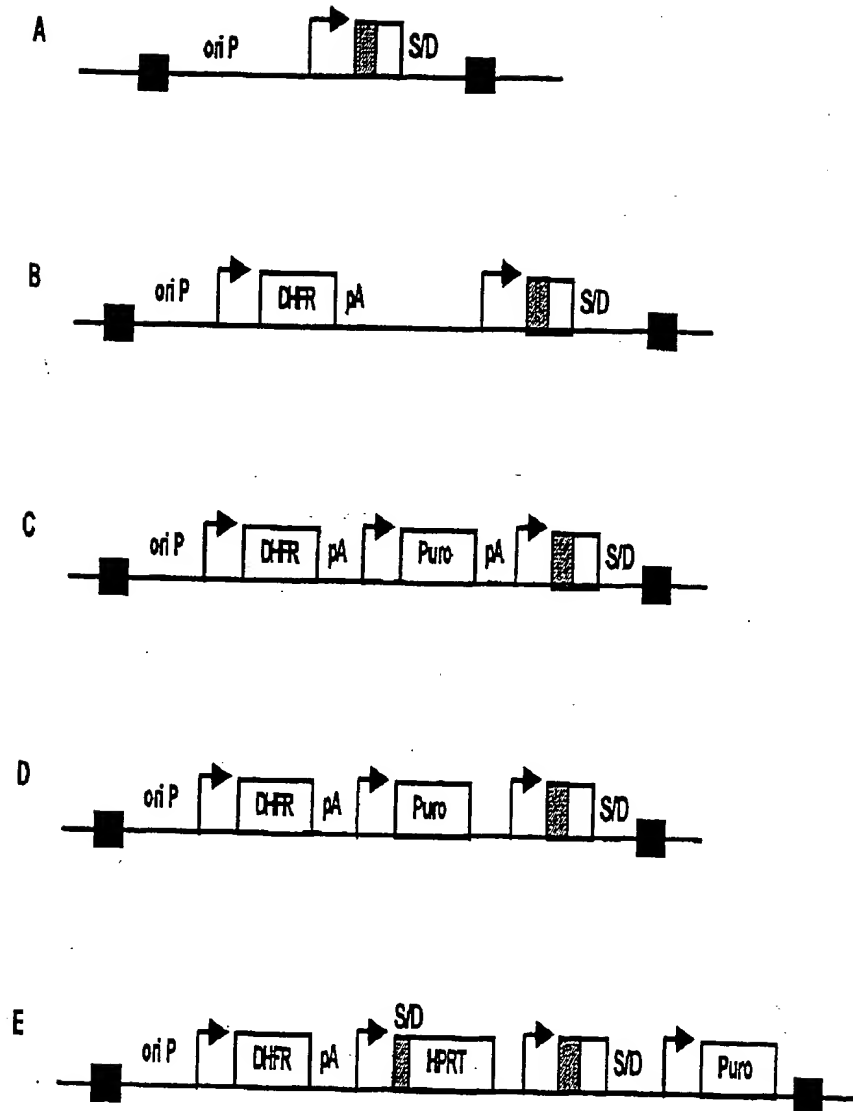


FIGURE 27

The diagram illustrates the Gateway cloning strategy. It begins with a circular BAC Vector containing a multiple cloning site (MCS) and a Transposase enzyme. A DNA fragment containing an S/D (Start/Stop) sequence is shown. The Transposase enzyme facilitates the integration of this fragment into the BAC Vector. The resulting recombinant BAC Vector is then used for Transfection into a cell. The final step is an Assay for Protein Expression or Recover Vector Tagged Transcripts.

FIGURE 28

CACCTAAATTGTAAGCGTTAATATTTTGTAAATTCGCGTTAAATTTTGT
TAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGCAAAATCCCTTAT
AAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTGTTCCAGTTTGGAA
CAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAAAGGGGCGAAAAA
CCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCTAATCAAGTT
TTTTGGGGTCGAGGTGCCGTAAAGCACTAAATCGGAACCCTAAAGGGAGC
CCCCGATTTAGAGCTTGACGGGGAAAGCCGGCGAACGTGGCGAGAAAGGA
AGGGAAGAAAGCGAAAGGAGCGGGCGCTAGGGCGCTGGCAAGTGTAGCG
GTCACGCTGCGCGTAACCACCACACCCGCCGCGCTTAATGCGCCGCTACAG
GGCGCGTCCCATTTCGCCATTACAGGCTGCGCAACTGTTGGGAAGGGCGATC
GGTGCGGGCCTCTTCGCTATTACGCCAGCTGGCGAAAGGGGGATGTGCTG
CAAGGCGATTAAAGTTGGGTAACGCCAGGGTTTTCCAGTCACGACGTTGTA
AAACGACGGCCAGTGAATTGTAATACGACTCACTATAGGGCGAATTGGGT
ACaattcaattcgctgacctcgaaattctaccgggtaggggaggcgcttttcccaaggcagctctggagcatgcgcttag
cagccccgctgggcacttggcgctacacaagtggcctctggcctcgacacattccacatccaccggtagggcgccaacc
ggctccgttcttgggtggcccttcgcgccacctctactctcccctagtcaggaagttccccccgccccgcanctcgcg
tcgtgcaggacgtgacaaatggaatagcacgtctcactagctcgtgcagatggacaagcacggctgagcaatggagc
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ATAAATCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAAT
ATGTACATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGA
TTATTGACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGC
CCATATATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCGCCTGGC
TGACCGCCCAACGACCCCGCCCATTTGACGTCAATAATGACGTATGTTCCC
ATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTA
CGGTAAACTGCCCCTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCG
CCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCAG
TACATGACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTC
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GGGAGTTTGTGTTTGGCACCAAAATCAACGGGACTTTCGAAAATGTCGTAAC
AACTGCGATCGCCCGCCCCGTTGACGCAAAATGGGCGGTAGGCGTGACGG
TGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTAGA
AGCTTTATTGCGGTAGTTTATCACAGTTAAATTGCTAACGCAGTCAGTGCT
TCTGACACAACAGTCTCGAACTTAAGCTGCAGTGACTCTCTtaattaaccaccgctac
aggtgagtactcgGATCTGCTACCTTAAGagaggcctatctggccagtttagcagtcgaagaaagaagtttaa
GAGAGCCGAAACAAGCGCTCATGAGCCCGAAGTGGCGAGCCCGATCTTCC
CCATCGGTGATGTGCGCGATATAGGCGCCAGCAACCGCACCTGTGGCGCC-

FIGURE 29A

GGTGATGCCGGCCACGATGCGTCCGGCGTAGAGGATCCACAGGACGGGTG
TGGTCGCCATGATCGCGTAGTCGATAGTGGCTCCAAGTAGCGAAGCGAGC
AGGACTGGGCGGCGGCCAAAGCGGTCCGACAGTGCTCCGAGAACGGGTGC
GCATAGAAATTGCATCAACGCATATAGCGCTAGATCCTTGCTAGAGTCGAG
GCCGCCACCGCGGTGGAGCTCCAGCTTTTGTTCCTTTAGTGAGGGTTAAT
TTCGAGCTTGGCGTAATCATGGTCATAGCTGTTTCCTGTGTGAAATTGTTA
TCCGCTCACAATTCCACACAACATACGAGCCGGAAGCATAAAGTGTAAG
CCTGGGGTGCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCAC
TGCCCGCTTTCCAGTCGGGAAACCTGTGCTGCCAGCTGCATTAATGAATCG
GCCAACGCGCGGGGAGAGGCGGTTTGCCTATTGGGCGCTCTTCCGCTTCCT
CGCTCACTGACTCGCTGCGCTCGGTCTGTCGGCTGCGGCGAGCGGTATCAG
CTCACTCAAAGGCGGTAAATACGGTTATCCACAGAATCAGGGGATAACGCA
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ACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTG
GCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTT
CGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTTCAGCCCGACCGCTGC
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AGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAG
AAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGA
AAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTG
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AAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACT
CACGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGA
TCCTTTTAAATTAATAAATGAAGTTTTAAATCAATCTAAAGTATATATGAGT
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CGATCTGTCTATTTTCGTTTCATCCATAGTTGCCTGACTCCCCGTCGTGTAGAT
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ATTGTCTCATGAGCGGATACATATTGAATGTATTAGAAAAATAAACAAA
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Figure 29B

GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA
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Figure 30A

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CTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCG
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CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGC
GGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAG
GACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAG
AGTTGGTAGCTCTTGATCCGGCAACAAACCACCGCTGGTAGCGGTGGTT-

FIGURE 30B

GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA
TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA
CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG
ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT
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ctttaaaaaggccgaatatccagctgaacgggtctggttataggtagcattgagcaactgactgaaatgcctcaaaatgttcttt
acgatgccattgggatatacaacgggtggtatccagtgattttttctccatttagcttcttagctcctgaaaaatctcgata
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gggtcgccggtgtgttcgtatatggaggtagtaagacctccctttacaacctaaggcgaggaactgcccttgctattccaca
atgtcgtcttacaccattgagtcgtctccctttggaatggcccttggaacccggcccaaacctggcccgctaagggaagtc
cattgtctgtattttcatggtctttttacaaactcatatattgctgaggttttgaaggatgcgattaaggacctgttatgacaa-

Figure 31A

agccccctcctacctgcaatatcaggggtgactgtgtgcagctttgacgatggagtagatttgcctccctggttccacctatg
 gtggaaggggctgccgaggagggtgatgacggagatgacggagatgaaggagggtgatggagatgaggggtgaggaag
 ggcaggagtgatgtaacttgttaggagacgccctcaatcgattaaaagccgtgtattccccgcactaaagaataaatccc
 cagtagacatcatgcgtgctgttggtgtatttctggccatctgtctgtcaccatttctcctcccaacatggggcaattggg
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 aatcagacatgcgacggctttagcctggcctccttaattcacctaagaatgggagcaaccagcatgcaggaaaaggaca
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 gctgactgtatatgcatgaggatagcatatgctaccggatacagattagatagcatatactaccagatatagattaggat
 agcatatgctaccagatatagattagatagcctatgctaccagatataaattagatagcatatactaccagatataga
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 aatctctattagatagcatatgctaccggatacagattagatagcatatactaccagatatagattagatagcatatg
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 GCCATGATCGCGTAGTCGATAGTGGCTCCAAGTAGCGAAGCGAGCAGGAC
 TGGGCGGCGGCCAAAGCGGTCCGACAGTGTCTCCGAGAACGGGTGCGCATA
 GAAATTGCATCAACGCATATAGCGCTAGATCCTTGCTAGAGTCGAGATCTG
 TCGAGCCATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGG
 CCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATACA
 AAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGA
 TACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACC
 CTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCG
 CTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCTGCTCGCT
 CCAAGCTGGGCTGTGTGCACGAACCCCCCGTTTCAGCCCGACCGCTGCGCCT
 TATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGC
 CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGC
 GGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAG
 GACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAG
 AGTTGGTAGCTCTTGATCCGGCAACAAACCACCGCTGGTAGCGGTGGTT-

FIGURE 31B

GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA
TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA
CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG
ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT
ATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCCGCTGGCTGACCG
CCCAACGACCCCCGCCATTGACGTCAATAATGACGTATGTTCCCATAGTA
ACGCCAATAGGGGACTTTCATTGACGTCAATGGGTGGAGTATTTACGGTAA
ACTGCCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT
ATTGACGTCAATGACGGTAAATGGCCCCGCTGGCATTATGCCCAGTACATG
ACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCT
ATTACCATGGTGATGCGGTTTTTGGCAGTACACCAATGGGCGTGGATAGCG
GTTTGACTCACGGGGATTTCGAAGTCTCCACCCCATGACGTCAATGGGAG
TTTGTGTTTGGCACCAAAATCAACGGGACTTTCGAAAATGTCGTAACAACGTG
CGATCGCCCCGCCCGTTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGA
GGTCTATATAAGCAGAGCTCGTTTTAGTGAACCGTCAGATCACTGAATTCTG
ACGACCTACTGATTAACGGCCAGATCTAAGCTAGCGCCGCCACCATGGGCC
CTAAAAAGAAGCGTAAAGTCGCCCCCCCCGACCGATGTCAGCCTGGGGGAC
GAGCTCCACTTAGACGGCGAGGACGTGGCGATGGCGCATGCCGACGCGCT
AGACGATTTTCGATCTGGACATGTTGGGGGACGGGGATTCCCCGGGGCCGG
GATTTACCCCCCAGACTCCGCCCCCTACGGCGCTCTGGATATGGCCGACT
TCGAGTTTGAGCAGATGTTTACCGATGCCCTTGGAATTGACGAGTACGGTG
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CGCGCCgctctcctggctaggagtcacgtagaaaggactaccgacgaaggaactgggtcgccggtgtgttcgtat-

Figure 32A

atggaggtagtaagacctccctttacaacctaaggcgaggaactgcccttgctattccacaatgtcgtcttacaccattgagt
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 ttacaaactcatatatttctgaggtttgaaggatgcgattaaggacctgttatgacaaagcccgtcctacctgcaatatac
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 GTCGATAGTGGCTCCAAGTAGCGAAGCGAGCAGGACTGGGCGGCGGCCAA
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 GCATATAGCGCTAGATCCTTGCTAGAGTCGAGATCTGTCGAGCCATGTGAG
 CAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCG
 TTTTTCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCA
 AGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCC
 CCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACCCTGCCGCTTACCGG
 ATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCA
 CGCTGTAGGTATCTCAGTTCGGTGTAGGTTCGTTCCGCTCCAAGCTGGGCTGT
 GTGCACGAACCCCCCGTTTCAGCCCCGACCGCTGCGCCTTATCCGGTAACAT
 CGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCC
 ACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGT-

FIGURE 32B

TCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTA
TCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTT
GATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGCAAGC
AGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTT
CTACGGGGTCTGACGCTCAGTGGAACGAAACTCACGTAAAGGGATTTTG
GTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTATCGGTGTGA
AATACCGCACAGATGCGTAAGGAGAAAAATACCGCATCAGGAAATTGTAAG
CGTTAATAATTGAGAAGAACTCGTCAAGAAGGCGATAGAAGGCGATGCGC
TGCGAATCGGGAGCGGCGATACCGTAAAGCACGAGGAAGCGGTGAGCCCA
TTCGCCGCCAAGCTCTTCAGCAATATCACGGGTAGCCAACGCTATGTCCTG
ATAGCGGTCCGCCACACCCAGCCGGCCACAGTCGATGAATCCAGAAAAGC
GGCCATTTTCCACCATGATATTCGGCAAGCAGGCATCGCCATGGGTACGA
CGAGATCCTCGCCGTCGGGCATGCTCGCCTTGAGCCTGGCGAACAGTTCGG
CTGGCGCGAGCCCCTGATGCTCTTCGTCCAGATCATCCTGATCGACAAGAC
CGGCTTCCATCCGAGTACGTGCTCGCTCGATGCGATGTTTCGCTTGGTGGT
CGAATGGGCAGGTAGCCGGATCAAGCGTATGCAGCCGCCGCATTGCATCA
GCCATGATGGATACTTTCTCGGCAGGAGCAAGGTGAGATGACAGGAGATC
CTGCCCCGGCACTTCGCCCAATAGCAGCCAGTCCCTTCCCGCTTCAGTGAC
AACGTCGAGCACAGCTGCGCAAGGAACGCCCGTCGTGGCCAGCCACGATA
GCCGCGCTGCCTCGTCTTGCAGTTCATTAGGGCACCGGACAGGTCGGTCT
TGACAAAAAGAACCAGGGCGCCCCTGCGCTGACAGCCGGAACACGGCGGCA
TCAGAGCAGCCGATTGTCTGTTGTGCCAGTCATAGCCGAATAGCCTCTCC
ACCCAAGCGGCCCGGAGAACCTGCGTGCAATCCATCTTGTTCAATCATGCGA
AACGATCCTCATCCTGTCTCTTGATCAGAGCTTGATCCCCTGCGCCATCAG
ATCCTTGGCGGCGAGAAAGCCATCCAGTTTACTTTGCAGGGGCTTGTC AAC
TTACCAGATAAAAGTGCTCATCATTGGA AAAAAttcaattcgtcgacctcgaaattctaccggg
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gcgacctggtgcatgaccgcaagcccgggtgctgacggcgccccacgaccgacgccccgaccgaaaggagcg
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GACTAATTGAGATGCATGCTTTGCATACTTCTGCCTGCTGGGGAGCCTGGG
GACTTTCCACACCCTAACTGACACACATTCCACAGCTGGTTCTTTCCGCCTC
AGAAGGTACACAGGCGAAATTGTAAGCGTTAATATTTTGTAAATTCGCG
TTAAATTTTTGTAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGC
AAAATCCCTTATAAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTTGTT
CCAGTTTGGAAACAAGAGTCCACTATTAAGAACGTGGACTCCAACGTCAAA
GGGCGAAAAACCGTCTATCAGGGCGATGGCCAC

FIGURE 32C

09276830 033606

aactgactgaaatgcctcaaaatgttctttacgatgccattgggatatatcaacgggtggtatatccagtgattttttctccatttt
agcttccttagctcctgaaaatctcgataactcaaaaaatagcccggtagtgatcttatttcattatggtgaaagtggaaacc
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aacaacatggttcacctgtcttggctccctgctgggacacatcttaataaccccagtatcatattgcactaggattatgtgtg
cccatagccataaattcgtgtgagatggacatccagctttacggcttgtccccaccccatggatttctattgttaaagatattc
agaatgtttcattcctacactagtatttattgcccgaaggggtttgtgaggggttatattggtgtcatagcacaatgccaccactga
acccccgtccaaattttattctgggggctgacctgaaacctgttttcgagcacctcacatacaccttactgttcacaactc
agcagttattctattagctaaacgaaggagaatgaagaagcaggcgaagattcaggagagttcactgcccgtccttgatc
ttcagccactgcccttgactaaaatggttcactacctcgtggaatcctgaccccatgtaataaaacctgacagctcat
gggggtgggagatatcgctgttccttaggaccttttactaacctaattcgatagcatatgcttcccgttgggtaacatatgct
attgaattagggttagtctggatagtatatactactaccgggaagcatatgctaccggttaggggttaacaagggggcctta
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cgtagcttctctgggccccctgggaggtacatgtccccagcattgggtgaagagcttcagccaaggttacacataaaggc
aatgttgtgttgacgtccacagactgcaaagtctgctccaggatgaaagccactcagtggtgcaaagtgtgcacatccattta
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agttgtaccaaccaactgaagggtattacatgcactgccccgaatacaaaaacaaagcgctcctcgtagcgaagaagg
ggcagagatgccgtagtcaggttttagttcgtccggcgggcggGCGGCCGCAAGGCGCGCCGGATCC
ACAGGACGGGTGTGGTTCGCCATGATCGCGTAGTCGATAGTGGCTCCAAGT
AGCGAAGCGAGCAGGACTGGGCGGCGGCCAAAGCGGTTCGGACAGTGTCTCC
GAGAACGGGTGCGCATAGAAATTGCATCAACGCATATAGCGCTAGATCCT
TGCTAGAGTCGAGATCTGTCTGAGCCATGTGAGCAAAAGGCCAGCAAAAGG
CCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCC
CCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAAC
CCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTG
CGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCC
CTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGT-

FIGURE 33B

009276260 : 009276260

TCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTT
CAGCCCGACCGCTGCGCCTTATCCGGTAACCTATCGTCTTGAGTCCAACCCG
GTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAG
CAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTA
ACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGC
CAGTTACCTTCGGA AAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCA
CCGCTGGTAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAA
AAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTC
AGTGGAACGAAAACCTCACGTTAAGGGATTTTGGTTCATGAGATTATCAAAA
AGGATCTTCACCTAGATCCTTTTATCGGTGTGAAATACCGCACAGATGCGT
AAGGAGAAAATACCGCATCAGGAAATTGTAAGCGTTAATAATTCAGAAGA
ACTCGTCAAGAAGGCGATAGAAGGCGATGCGCTGCGAATCGGGAGCGGCG
ATACCGTAAAGCACGAGGAAGCGGTACGCCATTTCGCCGCCAAGCTCTTCA
GCAATATCACGGGTAGCCAACGCTATGTCCTGATAGCGGTCCGCCACACCC
AGCCGGCCACAGTCGATGAATCCAGAAAAGCGGCCATTTTCCACCATGATA
TTCGGCAAGCAGGCATCGCCATGGGTACGACGAGATCCTCGCCGTCGGG
CATGCTCGCCTTGAGCCTGGCGAACAGTTCGGCTGGCGCGAGCCCCTGATG
CTCTTCGTCCAGATCATCCTGATCGACAAGACCGGCTTCCATCCGAGTACG
TGCTCGCTCGATGCGATGTTTCGCTTGGTGGTCGAATGGGCAGGTAGCCGG
ATCAAGCGTATGCAGCCGCCGCATTGCATCAGCCATGATGGATACTTTCTC
GGCAGGAGCAAGGTGAGATGACAGGAGATCCTGCCCGGCACTTCGCCCA
ATAGCAGCCAGTCCCTTCCCGCTTCAGTGACAACGTCGAGCACAGCTGCGC
AAGGAACGCCCCGTCGTGGCCAGCCACGATAGCCGCGCTGCCTCGTCTTGCA
GTTTCATTACAGGGCACCGGACAGGTTCGGTCTTGACAAAAAGAACC GGCGC
CCCTGCGCTGACAGCCGGAACACGGCGGCATCAGAGCAGCCGATTGTCTG
TTGTGCCCAGTCATAGCCGAATAGCCTCTCCACCCAAGCGGCCGGAGAACC
TGCGTGCAATCCATCTTGTTCAATCATGCGAAACGATCCTCATCCTGTCTCT
TGATCAGAGCTTGATCCCCTGCGCCATCAGATCCTTGGCGGCGAGAAAGCC
ATCCAGTTTACTTTGCAGGGCTTGTC AACCTTACCAGATAAAAGTGCTCAT
CATTGGAAAAcattcaattcgtagcctcgaaattctaccgggtaggggagggcgcttttcccaaggcagtctgga
gcatgcgcttagcagccccgctgggcacttggcgctacacaagtggcctctggcctcgacacattccacatccaccggt
aggcgccaaccggctcgttcttgggtggcccttcgcccaccttctactctcccctagtcaggaagttccccccgccc
cgcanctcgctcgtgcaggacgtgacaaatggaaatagcacgtctactagtctcgtgcagatggacaagcaccgctga
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gagttgagcggttcccggctggccgagcagcaacagatggaaggcctcctggcgccgacccgggccaaggagccccg
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cctgacgccccccccacgcccgcagcggccgaccgaaaggagcgcacgaccccatgcatgatggcactgggcagg
taagtatcaaggttagcGGCCGCTAACCTGGTTGCTGACTAATTGAGATGCATGCTTT
GCATACTTCTGCCTGCTGGGGAGCCTGGGGACTTTCCACACCCTAACTGAC
ACACATTCCACAGCTGGTTCTTTCCGCCTCAGAAGGTACACAGGCGAAATT
GTAAGCGTTAATATTTTGTAAATTCGCGTTAATTTTTGTAAATCAGC-

Figure 33C

TCATTTTTTAACCAATAGGCCGAAATCGGC AAAATCCCTTATAAAATCAAAA
GAATAGACCGAGATAGGGTTGAGTGTTGTTCCAGTTTGGAACAAGAGTCC
ACTATTAAAGAACGTGGACTCCAACGTCAAAGGGCGAAAAACCGTCTATC
AGGGCGATGGCCCAC

FIGURE 33D

actgagggttaattgtcacagtttgcgtttccttcagcctgcatggattttctcatacttttgaactgtaattttaaggaagc
 caaatttgagggcagtttgcacagttgatttcttcttcttcccttcgtcatgtgacctgatatcgggggttagtctcatcat
 tgatgagggttgattatcacagtttattactctgaattggctatccgcgtgtgtacctctacctggagttttccacggtggat
 atttcttcttgcgtgagcgttaagagctatctgacagaacagtttcttcttgcctcctcgcagttcgtcgtatgctcgggta
 cacggctgcggcgagcgttagtgataataagtactgaggtatgtgcttcttcttctcctttttagtggttcttattttaa
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 agttgggggttcttctcaggctatcagagatgccgagaaagcagggcgactaccgcacccggataggaaattcaggagc
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 gtacgtattttgcttaccaaatacagcaatagtaaatggctctcagtcctcgtggatggaggagcaaatcgggatgcctggg
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 ggccattgatcaacgctcttcaactgggtgcctggagaaatgctcttctatttgggaacctgtcgaatgaaatttctgatcgt
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 GCTAGAGaaaagagttttagaaaacgaaaaaggccatccgtcaggatggccttctgcttaatttgatgcctggcaggt
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 cagttccctactctgcagtggggagacccacactaccatcggcgtacggcggttccacttctgagttcggcatgggggtca
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FIGURE 34B

ggctctgacaaaaagaaccgggcgcccctgcgctgacagccggaacacggcgcatcagagcagccgattgtctgtgt
gccagtcatagccgaatagcctctccaccaagcgccggagaaacctgcgtgcaatccatctgttcaatcatgcgaac
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GCGGAAAGAACCAGCTGTGGAATGTGTGTCAGTTAGGGTGTGGAAAGTCC
CCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCA
GCAACCAGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCA
AAGCATGCATCTCAATTAGTCAGCAACCATAGTCCCGCCCCTAACTCCGCC
CATCCCGCCCCTAACTCCGCCCAGTTCCGCCCATTTCTCCGCCCATGGCTG
ACTAATTTTTTTTATTTATGCAGAGGCGGAGGCCCGCCTCGGCCCTCTGAGCT
ATTCCAGAAGTAGTGAGGAGGCTTTTTTGGAGGCCTAGGCTTTTGCAAAAA
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ATTGAACAAGATGGATTGCACGCAGGTTCTCCGGCCGCTTGGGTGGAGAG
GCTATTCCGGCTATGACTGGGCACAACAGACAATCGGCTGCTCTGATGCCGC
CGTGTTCCGGCTGTCAGCGCAGGGGCGCCCGGTTCTTTTTGTCAAGACCGA
CCTGTCCGGTGCCCTGAATGAACTGCAGGACGAGGCAGCGCGGCTATCGT
GGCTGGCCACGACGGGCGTTCCTTGCGCAGCTGTGCTCGACGTTGTCACTG
AAGCGGGAAGGGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTC
CTGTCATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCA
ATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCGACCACCAA
GCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGT
CGATCAGGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAAC
TGTTCCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGTG
ACCCATGGCGATGCCTGCTTGCCGAATATCATGGTGGAAAATGGCCGCTTT
TCTGGATTCATCGACTGTGGCCGGCTGGGTGTGGCGGACCGCTATCAGGAC
ATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCT
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GCCTTCTATCGCCTTCTTGACGAGccATTctgctggcaggtaagtcgcagccctggcgctgatt
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agactttgttgatttgaaattccagacaagttgtgttaggatatgcccttgactataatgaatacttcagggttgatcat
gtttgtgcttagtgaaactggaaaagcaaaatacaaaagcctaaGCGGCCGCTAACCTGGTTGCTGA
CTAATTGAGATGCATGCTTTGCATACTTCTGCCTGCTGGGGAGCCTGGGGA
CTTTCCACACCCTAACTGACACACATTCCACAGCTGGTTCTTTCCGCCTCAG
AAGGTACACAGGCGAAATTGTAAGCGTTAATATTTTGTAAATTCGCGTT
AAATTTTTTGTAAATCAGCTCATTTTTTTAAACCAATAGGCCGAAATCGGCAA
AATCCCTTATAAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTTGTTCC
AGTTTGGAACAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAAAG
GGCGAAAAACCGTCTATCAGGGCGATGGCCAC

FIGURE 35B

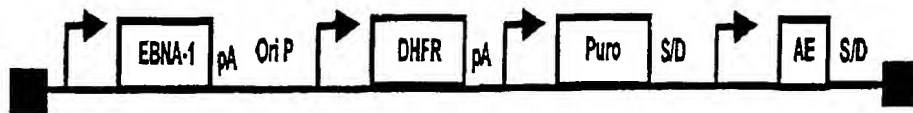


FIGURE 36

GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA
TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA
CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG
ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT
ATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCCGCTGGCTGACCG
CCCAACGACCCCCGCCATTGACGTCAATAATGACGTATGTTCCCATAGTA
ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA
ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT
ATTGACGTCAATGACGGTAAATGGCCCCGCTGGCATTATGCCCAGTACATG
ACCTTACGGGACTTTCCCTACTTGGCAGTACATCTACGTATTAGTCATCGCT
ATTACCATGGTGATGCGGTTTTTGGCAGTACACCAATGGGCGTGGATAGCG
GTTTGACTCACGGGGATTTCOAAGTCTCCACCCCATGACGTCAATGGGAG
TTTGT TTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAAC TG
CGATCGCCCCGCCCGTTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGA
GGTCTATATAAGCAGAGCTCGTTTTAGTGAACCGTCAGATCACTGAATTCTG
ACGACCTACTGATTAAACGGCCATAGAGGCCTCCTGCAGAACTGTCTTAGTG
ACAACTATCGATTTCCACACATTATACGAGCCGATGTTAATTGTCAACAGC
TCATGCATGACGTCCCGGGAGCAGACAAGCCCGACCATGGCTCGAGTAAT
ACGACTCACTATAGGGCGACAGGTGAGTACTCGCTACCTTAAGgcctatctggccg
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cattgtcgttatttcattggtctttttacaacctatatttgcgtgaggttttgaaggatgcgattaaggaccttggtatgacaa-

FIGURE 37A

agccccgtcctacctgcaatatcagggtgactgtgtgcagctttgacgatggagtagattgcctccctggttccacctatg
gtggaagggggtgccgcggagggtgatgacggagatgacggagatgaaggagggtgatggagatgagggtgaggaag
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CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGC
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GACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAG
AGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTT-

FIGURE 37B

